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Editorial

MEDICAL ETHICS THE SALVATION OF THE PATIENT

Medicine is the only profession whose conscientious labors are its own undoing. At the same time the code of ethics under which the medical profession operates constitutes a powerful force for the benefit of mankind. Elements of that code demand the highest ideals, the greatest generosity and the utmost self-sacrifice from any physician who can be classified as "ethical." A crime against the code of ethics is a crime against the highest ideals of human honor.

That code guarantees that any discovery of value in combating ills of mankind will be available to every doctor everywhere and thus available for sick people everywhere. No doctor can patent a procedure or a treatment and compel sick humanity to come to him. He is bound under the code to give his discovery to the profession in order that it may become available to sick humanity.

The code guarantees to sick people the right to choose their physicians. The code stands for *fair ethical competition between members of the profession and this principle has been regarded in America as one of the greatest possible incentives to progress and achievement.*

Some people think that if doctors were permitted to advertise that the public would be assisted thereby as to competent choice of a personal physician. This cannot possibly be true.

Reading the cancer cures, rupture cures, and forty-seven varieties of nauseous advertisements and cure-alls that appear daily in the newspapers would convince one of the danger of violation of the code of ethics from the advertising standpoint. Not necessarily the doctor with the most ability but the unprincipled men frequently having the most money and least skill could make claims in the press of superior ability. The public would be gullible enough to be guided by the advertisement occupying the greatest space and

making claims of the greatest cures. If one doctor were permitted to advertise all doctors would be compelled to advertise. The public would be less able to judge the merit of the physicians than it is under the present system.

The resultant stupendous cost of advertising under suspension of the code of ethics would necessarily have to be taxed onto the cost of doing business. As in every other line of human endeavor the cost must necessarily be passed on to the ultimate consumer and would therefore be taken out of the pockets of the patients as a necessary cost of the overhead of the doctor's operating expense.

The code of ethics is the greatest protection for the patient that can possibly be conceived. If any group of people on earth should be interested in preserving the Hippocratic oath on the principles of medical ethics as now constituted it should be the sick public. The best medical service possible to the public is prescribed under the conditions of the code.

IT HAPPENS EVERY DAY IN THE LIFE OF PHYSICIANS

MEDICAL ETIQUETTE IS THE SALVATION OF THE PATIENT

Certain interests have made an unfortunate attempt to divert the attention of the public from the real issues in the ouster proceedings of Dr. Louis E. Schmidt from the Chicago Medical Society. Further, deplorable indeed is the endeavor on the part of these same interests to throw sand into the eyes of the public and so persuade the public at large that Dr. Schmidt's ouster was based upon economic rather than ethical factors.

Economics unfortunately must enter into the lives of physicians since man can not live by science alone. Though miracles are expected of physicians theirs is but a mortal body through which almost superhuman faculties are supposed to be exercised. Nobody endows a doctor. Wealth at large seems inclined to endow anything and everything that will tend to take science out of the hands of its votaries and put it in the hands of the lay population, with the same lack of perspective that gives a spoiled child an expensive watch to batter about as a plaything. Though ethics and ethics alone was the motif back of the Schmidt ouster, the very fact that this must run tantamount to economics makes a word on the situation a paramount need.

The oath of Hippocrates, that has been the credo of the ethical physician since the earliest days of civilization held as a physician's sine qua non, his ethical ideas. One of the strictest points of ethical etiquette has been the keeping apart of the ethical physician from lay institutions whose advertising was based upon exploitation of surgical or medical skill. To attempt to explain medical ethics to the man-in-the-street is about as justified as to hold a clinic on canon law on the street corners.

Time was when the "medicine men" of the tribes possessed sovereign rights of tribute scarcely less than those of kings and rulers. That day has passed as it should have done. Changing modes have brought about changing systems of payment, for those who serve must be paid or how can they live to serve. Even a tyrant feeds his slaves. If the charge is made that medical demands for a medical income place medicine on a commercial footing then the very height of the standards of medicine as a business should be the index of the calibre of its payment and the heads of the medical profession should constitute the board of directors to set standards for the conduct of this business and how and in what terms payment should be made. Nobody ever heard any protest made as to the ouster of a man from the stock exchange or the board of trade, or a sports association, or a bar association or a commercial organization of any nature because "he was making too much money." Yet in the most ethical organization under the sun, outside of the churches and perhaps the law, because the heads try and condemn a man on ethical points the cry is made that it was "economic," prejudice rather than ethical tenets that influenced the verdict.

If it had been economic, it would have been small business of the public at large. As a matter of fact it wasn't, but here are a few of the reasons that would have made even an economic ouster none of the business of the lay critics. Since the ouster was one made from ethical standards alone, these facts stand out as even additional background.

Doctors, like members of every other trade or profession are obliged to live under apparently standard conditions. The doctor must pay rent,

taxes, buy clothes, feed and educate his children and support his wife. Medicine if a business is ingrained with altruism of the highest kind; a business imbued with the spirit of service to humanity at a sacrifice ranging from a decrease in income to the giving of one's health and life. If medicine be considered a business, then it is a medical business, and as such its high ideals and standards must be maintained.

People are not being deprived of either medical or surgical aid because of lack of funds. Charity was never so free and so widely distributed as at present. Indeed charity is being literally foisted upon the public without in many instances either excuse or necessity.

Literally speaking there has become an epidemic of charity distribution among a number of rich lay people, whose highly impressionable nervous systems and hearts frequently get the better of their judgment. Such citizens establish philanthropic medical institutes and free health centers for all sorts of persons rich and poor alike, even for persons with a minimum earning capacity of six thousand dollars a year. The average income of the physicians in the United States is not as high as the six thousand per year just quoted and in charity service almost any doctor gives the general public another $6,000 per annum.

The Doctor's middle name is charity. Garrison in his history of medicine tells us that in the year 490 B. C. the great philosopher and physician, Empedocles, expressed his relation to the poor in the following verse:

> "Thou art my friend; to thee,
> All knowledge that I have,
> All skill I wield are free.

"Twenty-two hundred years after this verse was written, another physician, by the name of John Hunter, in a note given to a patient to take to another physician by the name of William Hunter, wrote, 'Do not know the bearer's case. He has no money. He is desirous of your opinion. Do all you can for him.' Similar notes are written daily by thousands of physicians in the year 1929, and they are not advertised either individually or collectively.

"A question of medical ethics and its importance may perhaps best be summarized in the words of John St. Loe Trachey, in the River of Life: 'No profession is more exposed to the temptation to forget honor, humanity, and kindness than the medical profession and none in which the exploitation of human suffering is easier. Yet there is none in which the temptation is more triumphantly withstood. Let this be remembered by the public when they feel inclined to sneer at medical etiquette, as if it were a code for maintaining selfishness and enrichment. Medical etiquette is the salvation of the patient.' "

And this "medical etiquette" is all based upon the code of ethics, upon which the Schmidt ouster is grounded.

ANOTHER ECHO IN THE DOCTOR SCHMIDT CASE
COMMENT BY SECTARIAN PRESS UPHOLDS SCHMIDT DECISION ON GENERIC BASIS

It is gratifying to note how large a proportion of the lay press is beginning to rally to the support of the decision of the Chicago Medical Society in the decision in the Louis E. Schmidt case. Under date of April 27, "America" makes in part this editorial comment upon the action taken to expel Dr. Louis E. Schmidt from the Chicago Medical society.

That this advertising was the sole cause is not, however, clear. Private groups in the city of Chicago are now planning the erection of large hospitals, all of which will not only conduct public clinics, but offer medical and hospital attendance at prices considerably under the prevailing rate. Practising physicians, whose devotion to the best ideals of the profession cannot be impeached, are asking whether it is not possible to go too far in this direction. They are willing to give their services free, in cases of need, but they think that too low a rate of fees may result in creating a mendicant class, composed of patients who can pay, but who will not, as long as they need not.

The presence in some quarters, of physicians who degrade a noble profession to the level of a dishonest business, has brought unmerited censure upon the whole profession. *Even as the priest, so too the physician is a laborer worthy of his hire. Upon his preliminary training at college and in the professional school, he has*

expended thousands of dollars. On this investment he is entitled to a just return. He is entitled also to proper remuneration for his actual services. Whatever makes a fair return impossible must show positive and indubitable reasons for its continuance.

Many physicians of repute believe that the free clinic and hospital service has been carried somewhat too far. Wealthy philanthropists erect huge buildings for laboratories and hospitals, and found institutions which, because of their liberal endowments, are able to provide service either free or for a fee much lower than that which the physician in private practice, or the small institution, must necessarily ask in order to meet operating and living expenses. These facilities, it is said, divert patients who could easily pay the reasonable fee, to the institution in which there is no fee, or a smaller one.

Surely it should be possible for the clinics and the hospitals to exercise a larger degree of discrimination in admitting patients so that free service would be accorded to those only whose need is real. Every social agency learned long ago how easily an applicant may be pauperized. There can be no doubt that one of the sorest needs of the day is hospitals in which self-respecting people can receive treatment in return for fees in keeping with their very moderate means. It is to be hoped that the medical profession can devise a way of meeting this very real need without exposing any of its worthy members to the loss of a living wage. The physician's right to it is as undoubted as the right of any millhand in Carolina.

CHICAGO RETAIL DRUGGISTS' PUBLICATION UPHOLDS THE OUSTER OF DOCTOR SCHMIDT

The C. R. D. A. News, the official publication of the Chicago Retail Druggists Association, in its issue of April 27, carried an interesting statement from Mr. S. Gassel, 334 East 31st Street, relative to the recent public discussion of the Medical Society and its ethical activities. We quote:

"We druggists, who come so closely in contact with physicians, know far more of their problems and difficulties than the rank outsiders who are daily assailing them in the public press. We ought accordingly to take a united stand in support of the physicians against such unwarranted public assaults upon their general practices and methods. These defenders of the public welfare have no more right to dictate the policies of the Medical Society than they would grant that society the right to dictate the policies of the various associations of their own businesses.

"The truth of the matter is that people who come in contact with physicians and understand their problems, as we druggists do, and who are not influenced by the thousands of dollars derived from the advertising of the Public Health Institute, as are our public spirited newspapers, are in strict accord with their policy.

"I challenge those 'select' citizens who deem it their duty to publicly condemn the medics, to compare the income tax returns of their poorest member with that of the wealthiest physician who makes his living from the legitimate practice of medicine."

THE HOUSE OF DELEGATES OF THE ILLINOIS STATE MEDICAL SOCIETY UPHOLDS THE OUSTER OF DOCTOR SCHMIDT

At the meeting of the Illinois State Medical Society at Peoria on Tuesday, May 21, the expulsion of Dr. Louis E. Schmidt from the Chicago Medical Society was upheld by the Council of the State Society and by the House of Delegates.

Dr. Schmidt's appeal was heard first by the Council which elected to have the appeal heard in writing. At the conclusion of the hearing the three Chicago members refrained from voting. The vote to uphold the action of the Chicago Medical Society was unanimous.

An appeal was taken to the House of Delegates by Dr. Schmidt, and after the appeal was heard the action of the State Council in upholding the action of the Chicago Medical Society was concurred in by a unanimous vote.

Another appeal to the Judical Council of the American Medical Association is still available to Dr. Schmidt. The hearings before the State Society were on questions of law and procedure only, that is, the determination of the fact that the Chicago Medical Society conducted its hear-

ings in accordance with the provisions of the Constitutions and By-Laws.

The vote of ouster in both instances was unanimous.

CHICAGO NEWSPAPER GETS RIGHT ANGLE ON DOCTOR SCHMIDT CASE THE DOCTOR SCHMIDT CASE CHALLENGES THE AUTHORITY OF THE MEDICAL PROFESSION TO GOVERN ITS OWN AFFAIRS

The following editorial that appeared in the *Chicago Daily Journal* under date of May 23, 1929, calls attention to the fact that the trial of Dr. Louis E. Schmidt was based on ethical and not commercial reasons and that it was for ethical transgression that decision was made to expel him from membership in the Chicago Medical society.

Dr. Schmidt to Appeal

In uppholding the exulsion of Dr. Louis E. Schmidt by the Chicago Medical society, the Illinois State Medical society made it plain that the proceedings against the doctor were instituted solely because of a breach of medical ethics and not because of any economic question concerned. In Dr. Schmidt's case, the question of smaller fees and of free treatment naturally became involved because of the clinic maintained by the Illinois Social Hygiene league, of which he is president. In the public mind, the mistaken conviction has grown that Dr. Schmidt was being disciplined, even persecuted, because he offered medical treatment at a nominal fee.

It has been a tradition with the organized medical profession that doctors must not enter into competitive advertising. Steps to prevent cutthroat competition have been taken to protect not only the medical profession but the public as well. It is convincingly clear that the most skillful advertiser is not necessarily the best doctor, and that the busy medical commercial combine, with advertising manager and press agent, is not likely to make up in mass production what it might lack in care and thoroughness. Yet the power of advertising is such that the clever medical salesman might exploit the public to its own detriment.

Despite a sincere sympathy with the aims of Dr. Schmidt, whose competency has in no wise been challenged by the action of the two medical societies which have banned him from membership, the public must realize the importance of a stern code of ethics as applied to the practice of medicine. Only by the application of such a code has the public been protected from quacks and charlatans who would enrich themselves on human gullibility. Only by uplifting the medical profession and keeping it on the high plane it has occupied for generations have the great modern advances in scientific medicine been made possible. Dr. Schmidt's offense seems trivial, indeed, to the lay mind, but in reality it challenges the authority of the medical profession to govern its own affairs.

Dr. Schmidt has announced that he will carry his case to the American Medical association, which meets at Portland, Ore., next month. Insisting that a limited amount of advertising is proper and ethical in offering the services of clinics and charitable hospitals to the poor, he will present what he considers a progressive, not a revolutionary, ethical code for the consideration of medical authorities from all over the land. If he secures vindication at the hands of the supreme court of his profession and the decisions of the lower courts are reversed, his friends in Chicago will rejoice to see him reinstated. But lay opinion must, in any event, concede to the physicians the right and the good sense to run their profession so that the interests of humanity, to which their lives are devoted, will be best served.

BEWARE OF MEDICAL IMPOSTER

A man giving the name of G. Schultz, Peoria, Illinois, representing himself to be field manager for the World Insurance Company of Omaha, Nebraska, is traveling about the country writing insurance. This man is a fraud. A state warrant was issued for him May 27th, under the name of August Schultz (alias G. Schultz). Any one having information relative to this gentleman please notify State's Attorney Homer Williams, Carthage, Hancock County, Illinois.

DESCRIPTION

Distinctive marks. Weight 160-190. Height, 5 ft. 6 in.-5 ft. 8 in. Age about 50. Eyes gray, wore dark shell-rimmed glasses especially when writing. High forehead, rather broad laterally.

Face a trifle long. Smooth face. Nose a little Roman. Claimed to be Irish descendant. Hair dark, quite streaked with gray, almost gray, combed pompadour. Left leg, metal ankle brace extending from sole of foot to knee joint outside of leg under trousers, displayed the injured member as a talking point for insurance business, alleging to be automobile accident in 1927-28, favored the limb a trifle, a very slight limp. His manner is business-like. No scars or marks otherwise noticeable. Wore an Oxford gray suit, gray top coat and crush hat.

Earl Cooper, M. D.,
Augusta, Illinois.

FIVE THOUSAND ACTIVE VOLUNTEER HEALTH OFFICERS WANTED TO FIGHT DIPHTHERIA IN CHICAGO

Last December, the Commissioner of Health appealed to the medical profession to protect the children of Chicago against diphtheria, because he believed it was primarily the function of the family physician to render this service.

600,000 bulletins, "Chicago's Health," on diphtheria were distributed to children in the schools.

5,140 personal letters were sent to physicians.

1,903 physicians replied; 427 were not in general practice.

1,476 physicians sent to their patients 32,612 diphtheria warning letters.

12,279 replies were received, which resulted in the following number of children being immunized:

January	14,695
February	497
March	52
April	2

Sixty thousand children in Chicago have their first birthday every year and should be protected at this time.

If the protection of our children against diphtheria is to be kept in the hands of private physicians, redoubled efforts on the part of the doctors themselves will be necessary.

Diphtheria can be exterminated as shown by the experience of a number of American cities.

Dr. Kegel still believes this preventive work is the duty of the private physician; however, unless Chicago physicians show an increased willingness and interest in taking up this vital work, and unless sufficient progress is made to insure the continued protection of Chicago's children against diphtheria, it will become necessary for the Chicago Department of Health to supplement the work of the private physicians in the administration of diphtheria toxin-antitoxin.

Correspondence

INSTITUTION FOR DIAGNOSIS ONLY

To the Editor: The following data relative to the Physicians and Surgeons Institution is hereby submitted for your readers' information.

Out of the morass of controversy involving a possible solution of the economic problems tangent to medical and hospital service for persons of moderate means the purposed diagnostic center sponsored by a group of ethical physicians would appear to afford certain facilities of undisputed value in caring for one angle of definite expense where illness is concerned.

This group would seem to have taken to heart the idea of a possible establishment of a diagnostic center under the auspices of each branch of the Chicago Medical Society, and running throughout Cook County.

To this end there is being established on the near north side of Chicago, within walking distance of the business center of the city, a diagnostic center that it is expected will partially answer the demand of the medical profession and of the general public for the procural of a complete medical and surgical diagnosis at a reasonably moderate cost.

This Center is known as the Physicians and Surgeons Institution of Chicago and is located at the northeast corner of La Salle and Maple Streets.

Operation of the center, according to announcements, will feature the filling of certain wants. Mentioned among these are:

(1) "Management by a board of directors of laymen who are responsible for the business management of the physical properties.

(2) "The active management of the medical end will be vested in an active Medical Advisory Board with its representatives chosen from each department of medicine. This Advisory Board will formulate the by-laws and rules governing the medical procedure. There will be a Scientific Director, Associate Director, Director of Co-ordinated Diagnosis, Secretary of the Board, Judiciary Medical Counselor on points of ethics and a Chairman of the Medical Membership Committee.

(3) "In the various diagnostic units there will be employed a Full Time Staff selected with reference to character and to ability. This Staff

will represent the most scientific and skillful personnel obtainable. As this will be a Full Time Staff the interest of these men will be purely Diagnostic as they will neither treat nor operate. The PURPOSE OF THE DIAGNOSTIC CENTRE IS DIAGNOSIS AND IT WILL TREAT NO ONE.

"There will also be available to the DIAGNOSTIC CENTRE, selected from members and associates, CONSULTANTS in each and every department. THESE CONSULTANTS will rotate in their respective departments and will be called in on *each and every case* coming to the DIAGNOSTIC CENTRE to consult with the Full Time Staff before the diagnosis is complete.

(4) "ALL PATIENTS REFERRED TO THE DIAGNOSTIC CENTRE WILL BE RETURNED TO THE PHYSICIAN HAVING REFERRED THE CASE TOGETHER WITH THE COMPLETE FINDINGS and in instances wherein by such physician a request has been made for course of treatment, then this doctor will be furnished indicated therapy together with the latest literature covering this and applicable to that particular case.

(5) "Patients presenting themselves of their own volition for diagnosis and refusing to name any physician to whom findings may be sent will not be referred, by the DIAGNOSIS CENTRE, to any individual doctor but, on the contrary, will be asked to make a selection of some physician to whom findings will be sent.

(6) "Members of the Diagnostic Centre, comprising those medical men actively engaged in general practice, while not consultants to the DIAGNOSTIC CENTRE, shall yet be accorded all courtesies and facilities of the DIAGNOSTIC CENTRE. These members will have available to their hand various demonstrations which will be arranged upon request, such as pathologic or radiologic exhibits, histologic slides, bacteriologic demonstrations, etc., or work in conjunction with the CONSULTANTS in the specialty of their selection."

Establishment of such a medical center naturally arouses many questions in the minds of the medical profession at large.

Whether there is a real need for such an institution is evidenced partially at least by the recent agitation for a series of medical centers throughout Cook County, on the part of many prominent medical men; by the annual pilgrimages of hundreds of thousands of citizens to outside clinics for diagnostic purposes.

This organization will stop at diagnosis and will not give any treatment. Patients will be returned to their family physicians, and if there is no family physician patients will be counselled to select one to whom the diagnostic report will be sent. No diagnostic reports will be given to patients.

No individual doctor's name will be mentioned to patrons. Physicians may accompany and indeed will be encouraged to accompany their patients through the institution or may safely send them.

Ethical publicity along traditional lines of organized medicine will be the only advertising endeavor.

The physicians connected with the Institution are members of the Chicago Medical Society, Illinois State Medical Society and the American Medical Association. Doctors connected with the staffs at practically all the leading hospitals of Chicago and the Dean of at least one of the medical colleges of Chicago make up the personnel of the Institution.

In Chicago, Oak Park and Evanston there are sixty general hospitals registered or approved by the American Medical Association that have fifty-one or more beds. This group was listed in the Journal of March 30, 1929. Medical men connected with the purposed diagnostic center hold staff positions in fifty-one of these hospitals. Of the nine others in which it would appear that members of the diagnostic center are not associated, four are located in the far south side, one is in Evanston, and three have been completed since this data was compiled.

Other statistical data as to the standing of the men connected with the institution includes these figures as to members and their affiliations.

25 hold or have held positions as Chief of Staff or Chief of specialty in these hospitals.

294 staff positions are held or have been held by them.

3 are on Staffs of Consultation.

15 hold or have held staff positions at Special Hospitals.

2 have held or hold places as Chief of Special Hospital.

At the 4 Class "A" medical Schools in Chi-

cago: 83 members hold or have held teaching positions.

At the post graduate schools 14 men hold or have held teaching positions.

Among the medical societies members are officers or past officers as follows:

GENERAL SOCIETIES

	President	Other Officers
Local	7	3
State	6	9
National	1	1

SPECIAL SCIENTIFIC SOCIETIES

Local	15	5
National	4	3
International	1	..

Editors of Medical Publications..... 3

Directors or Medical Supervisors of Medical or Surgical Institutions 11

Heads of Medical Departments of Industries of Municipal Divisions 20

GEORGE WALTERS, General Manager.

AMERICAN MEDICAL ASSOCIATION ANNUAL MEETING, PORTLAND, ORE., JULY 8-12, 1928

OFFICIAL ROUTES, CHICAGO TO PORTLAND, FOR THE ILLINOIS MEDICAL SOCIETY

The Chicago & North Western Railway Co. has been named as the official route from Chicago for members of the Illinois State Medical Society, in connection with the annual meeting at Portland, Ore.

The following routes are suggested as the most attractive from the standpoint of scenic attractions and convenient arrival at the Convention City:

Schedule No. 1

"Portland Limited"

Lv. Chicago—C. & N. W. Ry....	8:30 P. M.	Fri., July 5
Ar. Omaha—C. & N. W. Ry.....	8:10 A. M.	Sat., July 6
Lv. Omaha—Union Pacific	9:00 A. M.	Sat., July 6
Ar. Cheyenne—Union Pacific	8:00 P. M.	Sat., July 6
Lv. Cheyenne—Union Pacific	8:15 P. M.	Sat., July 6
Ar. Huntington—Union Pacific....	9:40 P. M.	Sun., July 7
Lv. Huntington—Union Pacific....	9:40 P. M.	Sun., July 7
Ar. Portland—Union Pacific	9:30 A. M.	Mon., July 8

Schedule No. 2

"Continental Limited"

Lv. Chicago—C. & N. W. Ry.....11:20	P. M.	Thurs. July 4
Ar. Omaha—C. & N. W. Ry.....12:05	P. M.	Fri., July 5
Lv. Omaha—Union Pacific 12:30	P. M.	Fri., July 5
Ar. Cheyenne—Union Pacific 1:30	A. M.	Sat., July 6
Lv. Cheyenne—Union Pacific 1:40	A. M.	Sat., July 6
Ar. Huntington—Union Pacific .. 3:52	A. M.	Sun., July 7
Lv. Huntington—Union Pacific .. 3:52	A. M.	Sun., July 7
Ar. Portland—Union Pacific 5:20	P. M.	Sun., July 7

Schedule No. 3

Lv. Chicago—C. & N. W. Ry.....10:00	P. M.	Tues., July 2
Ar. St. Paul—C. & N. W Ry..... 9:30	A. M.	Wed., July 3
Lv. St. Paul—Soo Line 11:40	A. M.	Wed., July 3
Ar. Banff—Canadian Pacific 8:55	A. M.	Fri., July 5
Lv. Banff—Canadian Pacific..... 8:40	P. M.	Fri., July 5
Ar. Lake Louise—Can. Pacific....10:15	P. M.	Fri., July 5
Lv. Lake Louise—Can. Pacific....10:40	A. M.	Sat., July 6
Ar. Vancouver—Can. Pacific 7:50	A. M.	Sun., July 7
Lv. Vancouver—Can. Pac. S. S. Co.10:30	A. M.	Sun., July 7
Ar. Victoria—Can. Pac. S. S. Co. 2:30	P. M.	Sun., July 7
Lv. Victoria—Can. Pac. S. S. Co. 4:30	P. M.	Sun., July 7
Ar. Seattle—Can. Pac. S. S. Co... 9:30	P. M.	Sun., July 7
Lv. Seattle—Union Pacific 11:15	P. M.	Sun., July 7
Ar. Portland—Union Pacific 6:15	A. M.	Mon., July 8

Schedule No. 4

Lv. Chicago—C. & N. W. Ry.... 5:40	P. M.	Tues., July 2
Ar. Duluth—C. & N. W. Ry..... 8:15	A. M.	Wed., July 3
Lv. Duluth—Canadian National... 9:00	A. M.	Wed., July 3
Ar. Winnipeg—Canadian National. 8:50	P. M.	Wed., July 3
Lv. Winnipeg—Canadian National.10:30	P. M.	Wed., July 3
Ar. Jasper Park—Can. National.. 8:40	A. M.	Fri., July 5
Lv. Jasper Park—Can. National.. 8:20	A. M.	Sat., July 6
Ar. Vancouver—Can. National.... 7:25	A. M.	Sun., July 7
Lv. Vancouver—Can. Pac. S. S. Co.10:30	A. M.	Sun., July 7
Ar. Victoria—Can. Pac. S. S. Co. 2:30	P. M.	Sun., July 7
Lv. Victoria—Can. Pac. S. S. Co. 4:30	P. M.	Sun., July 7
Ar. Seattle—Can. Pac. S. S. Co.. 9:30	P. M.	Sun., July 7
Lv. Seattle—Union Pacific 11:15	P. M.	Sun., July 7
Ar. Portland—Union Pacific 6:15	A. M.	Mon., July 8

The many additional attractive routes may be arranged to include various points of interest.

Very low summer tourist fares will be in effect from all points to Portland for this occasion, with a wide choice of return routes. The round trip fare going and returning via any direct route from Chicago will be $90.30, or tickets may be routed in one direction through California, for $18.00 additional, or $108.30 from Chicago. Correspondingly low fares will be in effect from all points and such tickets will permit stopover at any point either going or returning, within final limit of October 31st. The Pullman fares applying from Chicago to Portland, Seattle, or Vancouver, are as follows: Lower berth, $23.63; Upper berth, $18.90; Compartment, $66.75; Drawing Room $84.00. Slightly higher Pullman fares apply where stopovers are made.

Mr. H. G. Van Winkle, General Agent, C. & N. W. Railway, 148 S. Clark Street, Chicago, will be pleased to assist members in securing reservations or furnish any additional information regarding Pacific Coast travel. Write for illustrated literature regarding any point in which you are interested.

STRATEGY

Sooner or later the truth comes out. For instance, Al came back from the war a major. Now some of his friends whisper that his promotion came about through his happy answer to a question.

"What is the strategy of war? Give me an illustration," asked the examining board when Al went up for promotion.

"Strategy," replied Al promptly, "is when you don't let the enemy know you're out of ammunition, but keep on firing."

BRAVADO

"Yes," said the dentist, "to insure painless extraction, you'll have to take gas, and that's fifty cents extra."

"Oh," said Casey, "I guess the old way'll be best; never mind the gas."

"You're a brave man," said the dentist.

"Oh!" said Casey, "it ain't me that's got the tooth; it's my wife."

Original Articles

THE GENERAL PRACTITIONER*

JOHN E. TUITE, M. D.
President, Illinois State Medical Society
ROCKFORD, ILL.

"Good wine needs no bush" says the old saw. I suppose that after generations of service as guide, philosopher, friend and medico, the general practitioner can dispense with a champion. As a beneficiary in my youth of the kindly ministrations of the general practitioner, and now as a member of that guild which I delight to honor, it seems incumbent to say a word of greeting to the rank and file of a noble craft. There are those among us so short sighted as to think that instead of greeting the general practitioner as a still useful member of the body politic, he should be given a valedictory. For some there are who mistakenly cherish the notion that the general practitioner is on his way out and that he shall soon disappear.

I am not one to stand in the way of progress. Neither would I elect to play the part of "Sir Oracle," who, as Shakespeare says, has a visage that "doth cream and mantle as a standing pond" and who seems to say "when I ope my mouth, let no dog bark." Great is my desire to have it known that I am convinced that the general practitioner, the old family doctor who knows his people, their heredity, their proclivities, their possibilities, and who can gauge their psychological as well as their pathological content, is the one who should decide the question of specialization.

Brothers of the profession, what confronts us today? Great office buildings filled too often with self-nominated specialists, technicians, laboratory men, all unmindful of the human appeal of the ailing—entirely alien to sympathy, to ideals to altruism. In my capacity as President of your association, for which honor I shall ever be grateful, I protest against the tendency to make a technicians' trade out of what has always been the noblest of the purely human professions.

My cue is taken from highly respectable sources. I follow the tradition of Billings, Senn, Murphy—and, to rise to genuine heights in this matter—Osler, who virtually laid down his life as a result of fatigues undergone in the interest of general practice. Osler was a specialist, yes, but he had spent a novitiate in general practice under his model practitioner, James Bovell. Osler was a teacher who rose to the very pinnacle of such proficiency as was well known in his day but I feel quite sure that the great Osler would gladly subscribe to the dictum of Dr. Frank Billings, himself a good specialist, who says quite simply and directly that "in the majority of cases the painstaking general practitioner has been able to make accurate diagnosis and to treat scientifically, and that too, without too expensive equipment." M. L. Harris, president-elect of the A. M. A., said recently that the general practitioner who displays industry, will diagnose and treat 97 per cent. of the cases that come to him. It would seem that the men of the finer traditions and of the most dependable science are opposed to the practice of hasty reference to the self-chosen specialist when the patient could be better served by the family doctor. Or at least the family doctor who knows the patient is the man who should be given the opportunity to nominate the specialist and to determine whether the self diagnosis of appendicitis is after all one of the twinges of locomotor ataxia, or "what have you"?

All great advances bear within them the seeds of new problems. New methods of transportation expedite carrying of rural patients to urban centers. This is as it should be. Yet this fact has a demoralizing effect on the general practitioner who chooses the rural districts for location. Also, in these days of good roads, telephones, automobiles and airplanes, the larger centers can dispense urban service to rural communities.

The printed word has its effect in making the general practitioner a somewhat neglible quantity in the community life. With all the exaggerated reports of laboratory studies that appear in the daily press; in the public health programs and in similar mediums—all an advertising that is prejudicial to ethical medical practice and almost absolutely vicious,—the laity is fair game for all experimenters. I say to you doctors today, that we have a function in society in the need for protecting gullible laymen against the conspiracy of unwarranted specialization.

*President's Address Seventy-ninth Annual Meeting, Peoria, Illinois, May, 1929.

I would not be understood as in any way casting discredit upon those ethical physicians whose practice is limited to specialization. Those men are much needed and I salute them, but I am old fashioned enough to believe that no man can properly and successfully specialize until he has spent at least five years in general practice. This experience gives any doctor a broader view and reduces the number of self-styled specialists to a minimum. I like to feel that a specialist is a limb of the great tree; body and roots of which are deeply grounded in all branches of human ailments.

I venture to assert that medical education and pre-medical education are somewhat awry. My contention is made not on academic grounds alone, because the physicians' intellectual and technical preparation can never be too great, but also on professional and economic grounds.

One of the most disrupting elements in medical life today is the part played in the preparation of the profession, and later in the practice of medicine, by the endowed foundations, or other institutions embodying lay interference with the practice of medicine which places the profession in the position of competing with these subsidized efforts; with universities or other institutions in which the overhead expense of practice is cared for either by endowed interests or by tax payers.

When a university, or a hospital, or an institution featuring a pay clinic or a part pay clinic enters into the practice of medicine, then the community upholding and endorsing or permitting such an institution so to function is well on the way to state medicine. And state medicine, as much of Europe and especially Germany has discovered, offers the worst of all possible service to the community upon which it is inflicted.

Men and women of intellect, as well as nations, that have risen to heights only to fall into the sloughs of debased materialism, to put it mildly, have long since discovered that with the spiritual and with the ideal, there can be no traffic. One cannot make friends "with the Mammon of iniquity" in this regard and still prosper. The practice of medicine is a thing apart; an ever living monument to the hundreds of unsung martyrs who have died that others might live and that civilization might progress. Comes apace the race of merchants and traders, who having bought up everything else under the sun, from the palaces of kings of ante-Scriptural days, to the most modern of airplanes and automobiles, now planning to buy if it can, that beating heart of the healing arts, the idealism of the physician; attempting this malfaesance through endowed clinics, hospitals, universities, and other institutions, and desiring to tell the physician what to do and how to do it. From a fearless, courageous army of idealists pledged to the greatest of mortal sciences, this long line of almost sacred adjuncts to civilization is to be reduced to the rank of hired mercernaries. Gentlemen, it cannot be done and medicine survive in its greatness. If the increase in medicine practiced by corporations and under lay dictation is not halted within the next decade, the independent practice of medicine, and with it, the practice of medicine at its best for the individual and the nation will have become a vanishing memory. Oil and water do not mix. Medicine must be in the hands of the doctors or else lay dictation, no matter how skillfully disguised, will stand convicted of the murder of medical progress.

If the men of great wealth who seek to lift the burden of the high cost of medical care from the public, were to extend their efforts along the line of reducing the cost of medical education, these men would attain their object more quickly and confer great benefits on many worthy candidates from the noble practice of medicine. "Founders" and "Endowers" are saying that two classes, the very rich and the very poor obtain the best medical care. To my mind, this assertion is absurd. The very rich have the feeling they are getting the very best of care because of their ability to employ the men of special renown in the profession. A small percentage of the poor in larger centers comes under the care of these same men of special renown. Throughout the country in general, it is my belief that the poor and the middle classes receive the very best of medical attention, because the men practicing among these communities or groups are before the eyes of the public in general and their first thought is not for the financial reward which will accrue, but for the satisfaction of having rendered the best that lay in them. The great middle class needs no sym-

pathy. Accustomed to procuring the best that goes in every department of life, luxury or necessity—radio, automobiles, home comforts, education, why should this group be pauperized when it comes to medical care? True too much money is often unnecessarily spent by the average person in order that he may possess an imposing sheet of graphs, counts, charts, weird numerals, and what not, from the offices of the pay-as-you-enter clinics and specialists.

My real estimate as to faulty medical care and attention given the poor arises from my contemplation of those public welfare organizations, worthy of motive, no doubt, but economically short-sighted and socially not without grave possibility of wounding the body politic. Too much is said, particularly by opinionated sociologists whose preparation is begotten in a few months work under a set of theorists and is fostered by such indignation as can be aroused in reading facilely written magazine articles, about the high cost of medical attention. My experience in this community, a small American municipality with some of the ear-marks of a large city, has convinced me that the average poor man and his family can have excellent medical care at a moderate cost. I note further facts, and I note these as a general practitioner who has been taught to see more in medical practice than that which merely meets the eye. This class of patients, preserving their self-respect when paying what they could afford for attention made better medical progress and developed into better and more healthful members of the community under the old ethical method, than since they have been pauperized by indiscriminately distributed medical benefactions. This is a broad human fact. No real authoritative sociological authority denies it. Results of too much so-called medical benefaction are seen in what it does to the general practitioner. I can easily quote cases. But I confine myself to one demonstrable proof because anyone who will observe may read the same lesson. Long and varied experience among poor Italians has shown them to be able and glad to pay. To avoid all misconception, I must add that they really did pay (many others being both able and glad but still not paying) and to cap it all and to warm the heart of the doctor, they were the most appreciative patients I ever had. I am forced to say "they were," that is, until public welfare meddling had pauperized them; shown them the trick of getting something for nothing, whether that "something" was as good as what they formerly got for a few dollars or not.

Now, as I have said, come great captains of industry, men who would resent interference or criticisms of their methods or suggestions as to the way they should make, deliver, and price washing machines, wearing apparel, farm implements, automobiles, or other elements of modern life, yet who presume to tell the public that this public is being gulled by the men of our great profession. These industrial philanthropists would install free clinics and part pay clinics; decide who should pay and who should get off on part pay and make the average physician the goat. These industrial philanthropists through their so-called benefactions and their influence that so reach to hospitals and to great universities that they sometimes presume even to direct the curricula for the medical man, thus tend to break down all the ethics and traditions of the profession in order to promote the pet ideals and hobbies of non-medical laymen with more money than balance.

This brings us back to present day medical education. Therein one glaring fault is the educating and bringing forth of medical men, not by medical men who practice, but by full time professors who are not practitioners. Result is that our graduates today come out inadequately equipped for the great and necessary work to which they aspired. They have learned theory; they have not copied practice.

As a matter of preparation for his great work, would not the student be greatly benefited by having more pre-medic work (at least good Latin and Greek) in high school? But here is where angels fear to tread. In fact I do not feel any too sure myself. The difficulty about extending pre-medic work downward into the secondary schools is that we are liable to encounter the awe inspiring monster known as Paternalism. Where that monster might ultimately lead us is a matter of grave conjecture indeed "and makes us rather bear those ills we have than fly to others that we know not of" although we can go Hamlet one better, for we can at least give a good guess.

Candidates for the M. D. degree, held in so

great honor everywhere, should be carefully scrutinized for evidences of that integrity and moral soundness which are indispensable to the right idea of a medical practitioner. It must be insisted on, that to allow medicine to deteriorate into a trade is to commit professional and social suicide and to be accessory to the slow murder of civilization and the humanities. The closest possible contact should be maintained between the practicing profession and medical students.

It would seem that some reversion to the old preceptor method is indicated in order to keep the medical students' perspective always true to the lode-star of ethical medicine. In the pre-medical work, if anything should be eliminated, I would say eliminate the requirement regarding a smattering of modern languages; it never gets anywhere. Solidity, not veneer is wanted.

In medical schools today, it is unfortunate that our students do not come in contact with practicing physicians until their Junior year. Teachers must be sought whose vision is as broad as their training must be deep. Here again, unfortunately, the teachers are too often full time specialists. Some of the greatest teachers in the history of medicine in this country, such as Billings, Senn, Murphy, Quine, Fenger, Davis, and all specialists in their later lives, trained to the task in great fields of medical practice, were the type that today are too infrequent. These men taught scientific medicine, altruism, and devotion to humanity, and they kept alive in the student mind, an awareness of current conditions and of what should be expected of every doctor as the priest of the sacred human body. The practical things in medicine should not be suppressed at the expense of scientific medicine. Too many men trained according to the present tendency, bloom forth as specialists and lack the training necessary to endure and sacrifice.

Let us not be down hearted. I have recited a deal of woe and have given you no panacea. I suppose I haven't even indicated anything effective for even one symptom. However, I shall venture. Our refuge, our help, must come through the rearing of the new medical men on the old ethical lines, close contact throughout the student years with the men of general practice, and if possible, by extending the arm of fellowship from the State Society in a protecting and encouraging way to the student. We must have cooperation, mutual sympathy and respect. We must present a united front against all that is unethical, shifty, questionable, or merely expedient. We must recover the control of medical education and medical practice by medical men.

We discover the meanings and relationships of life only as we search for them and beyond debate what helps us most in any troubled time is the discovery of saving forces which, it may be, we had left out of account; heartening facts we were not recognizing; healing relationships of which we have not availed ourselves. Keeping in touch with each other in meetings, discussions and affiliations of a general nature—these are our weapons and should be our ever present help, because we are not to be superseded as a class, we are still important in every community. We must not desert our posts, in the face of troubled times. Physicians heal yourselves and heal each other.

THE CLINICAL AND X-RAY LABORATORY*

JOSIAH J. MOORE, M. D.
CHICAGO

The economic status of the clinical and x-ray laboratories differs somewhat from all other specialties in medicine. These are the only medical specialties in which non-medical trained persons or laymen are permitted to conduct a medical practice. The approved clinical laboratories are conducted by specialists who do not have a practice of their own, but take only referred patients. That is, patients coming to these laboratories for examination without being referred by a physician are told that they must give the name of a physician to whom the reports will be sent before having any examinations made.

Considering first, the clinical laboratory, we find several different types; 1. Those managed and directed by persons not graduates of medicine; 2. Those managed and directed by medical graduates, who are not properly qualified in the specialty and who appeal to physicians by price reductions or fee splitting; 3. The municipal or state laboratories which, depending upon their

*Read in Symposium on Medical Economics at Seventy-eighth Annual Meeting of Illinois State Medical Society, Chicago, May 10, 1928.

policy and location, perform a varying number of the laboratory tests for physicians; and 4. The properly qualified clinical laboratory which has been approved by those organizations approving or standardizing clinical laboratories. All but the state and municipal laboratories are being supported by licensed physicians.

In Chicago peculiarly we have a fifth laboratory maintained by a large institution which advertises in the daily press, is considered unethical by organized medicine, but still because of the low price charged for laboratory work, is to a great extent supported by the very physicians who criticize it. We also have in cities where medical schools are located a certain amount of laboratory work performed by the instructors in teaching institutions. The clinical pathologist is well satisfied to have this work done by competent men, but feel that their charges should at least be the same as those of the practicing clinical pathologist. In some instances blood chemistry and tissue diagnosis have been and are being made in such teaching institutions at much lower prices than those of the clinical laboratory. We feel that this is unfair since the persons performing the work are using the material, space and all other facilities of the university and have no personal overhead to maintain.

While clinical pathologists approve of the work performed by the state laboratories and realize the importance of such laboratories in the control of contagious diseases, they feel that in many instances the state laboratories have gone far beyond necessary diagnostic limits in the performance of such tests. Fortunately, in Illinois we have a Public Health Department which assumes a sympathetic attitude toward all branches of medicine. At present the State laboratory performs the Kahn test for syphilis for any physician sending blood for such an examination, without obtaining the name and address of patient. This was started to improve the treatment of syphilis in the State. While this latter is being accomplished many abuses have arisen and a true epidemiological control of syphilis has not been obtained, but the state has a long series of Wassermann and Kahn tests upon unknown persons. The State laboratory is maintained presumably for doing these tests upon charity patients, but the test is performed upon all specimens sent to the laboratory without any investigation of the financial status of the patients.

The Illinois Medical Laboratory Association has suggested that all specimens submitted for examination be accompanied by the name and address of the patient and that notices be returned to these patients stating that the tests were performed by the State laboratory, free of charge. The State authorities of public health felt favorable to the suggestion, but wished the endorsement of the Illinois State Medical Society. The matter has been presented on various occasions over a period of two years to the Council of the Illinois State Medical Society, but no action has been taken to date by the Council. If such action was taken there would be an increase in approved laboratories in the State of Illinois outside the city of Chicago. At present it is stated by approved clinical pathologists outside the city of Chicago, that on account of the physicians sending many of these tests to the state laboratory it is almost impossible to maintain their own laboratories. The state laboratory will also profit in having technicians released for more important epidemiological problems.

We, as clinical pathologists, humbly beseech the Illinois State Medical Society and their Council to take action upon this matter and to lessen this discrimination against one of the specialties in medicine. All possible efforts should be made to stop this phase of state medicine. The approved clinical laboratories of the state will gladly perform all the tests performed by the State laboratory other than those tests coming from State institutions, without any charge to the patient in actual charity cases (a charity patient being defined as one who has a certificate from his physician stating that the physician is receiving no fee for his medical services).

The future, however, is bright for the clinical pathologist since the American Medical Association and local societies are approving qualified laboratories, and organizations standardizing hospitals now request that the laboratories in recognized hospitals be directed by a competent pathologist, or by a laboratory approved by the American Medical Association. We, therefore, can now advise young medical men to take up clinical pathology as a specialty for life rather than a stepping stone to internal medicine or surgery.

The economics of the x-ray phase of medical work differs somewhat from that of the clinical laboratory aspect. This is partly due to the considerably larger amount of initial as well as upkeep expense, a very much larger overhead having to be met with in x-ray work. The equipping of a modern x-ray department calls for a financial outlay from three to six hundred per cent., depending upon the activities planned for. If radium therapy be made a part of the x-ray department's activities, the outlay is even greater. The technical work of x-ray exposures is, of necessity, performed by individuals especially trained in the work, while the strictly professional phases should be done only by qualified physicians. This is economically sounder than is the practice of some physician roentgenologists who perform the technical work of exposure, dark room developing, etc., themselves. Many of the lay x-ray technicians become exceedingly skillful in the work and command, therefore, relatively high salaries, further adding to the overhead. In a properly conducted x-ray department there is so much detail work connected with thorough x-ray technique that a laboratory which does a large volume of examination, requires an increasing number of technical assistants. X-ray investigations must not be thought of as a mere matter of placing a casette under a given part and an x-ray tube over same, the throwing of the x-ray switch and subsequent development and drying of the films. The end product of the entire proceeding is an interpretation in terms of normal or pathological change with interpretation or so-called diagnosis which constitutes the opinion of the physician roentgenologist responsible for the work. It is necessary to educate those concerned to think of an x-ray service disassociated from technician features; in other words, x-ray fees are paid for the physician roentgenologist's opinion and not for so-called "x-ray pictures" at so much per "picture." The question of who shall make the interpretation is not a debatable one. The rules of the American College of Surgeons and other similar bodies specifically call for physicians trained in roentgenology to have full charge of x-ray departments, who shall be responsible for diagnostic as well as technical details. *No x-ray laboratory exists* without the support of the regular or specialist physician, or surgeon.

Due to unfortunate precedents established and the difficulty of changing habits and routine form through such precedents, there is still an undue amount of laymen interference in this special branch of medical practice. Physicians who refer their patients to laymen directed x-ray service are perpetuating a practice which would be entirely as reprehensible as would be the practice of some physicians who might send their patients to a chiropractor or other similar cult. Just as soon as physicians and surgeons cease sending their patients to laymen for x-ray service, will this type of non-medical work disappear. It is true that the small hospital has a too limited income to maintain a complete x-ray service in diagnosis and therapy which is in charge of a physician roentgenologist. In such instances it is entirely feasible, economical and advisable to engage the service of a qualified specialist on a part time basis. This is becoming more and more the practice in the small hospital x-ray laboratories, and by this means the need of resorting to laymen interpretations is obviated. The relatively high operating overhead of a good x-ray laboratory service requires a fee for such service commensurate with the cost of production, plus the return for the professional service in the form of the roentgenologist's opinion. It would be economically more sound to have put two x-ray charges, one for such cases as call for a single visit with a few exposures, the other to cover the more extended examinations, but this does not appear at the present time to be a practical solution. There is hardly an x-ray laboratory that can operate under proper conditions at a cost of less than approximately $10.00 per case, excepting the large volume work would be a little less; therefore, patients who pay $5.00 and even less for certain x-ray examinations (a common practice in many places) increase the fee charged to some other patient, who must be charged too much in order to offset the loss in the first instance. It therefore, goes without saying that the customary x-ray fees in the lower brackets should be increased, while those in the upper brackets should be decreased in order to make a more equitable distribution of the cost.

I wish to thank Dr. E. S. Blaine for his preparation of the paper from the x-ray viewpoint.

THE GROUP CLINIC*

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There is no economic side to ethically conducted group clinics from the standpoint of increased revenue. The doctors who organize a group with the expectation of thereby producing either through increased number of patients or larger fees a larger joint income than the combined incomes of the different members would be if practicing individually, are doomed to disappointment. From the standpoint, however, of economy in providing facilities for thorough and complete examinations and competent service diverse and varied as diagnosis, medical treatment, eye, nose and throat, surgery, bacteriology, x-ray, pathology, pediatrics, obstetrics, neurology, etc., there may be distinct economic advantages in co-operation in a group clinic to both its members and to the patients.

The man who recognizes his own limitations in certain fields of work, can in a group clinic confine his activities to lines of work in which he feels that he is proficient and without loss of prestige or financial returns can provide satisfactory service for his patients along the lines in which he is not competent, by the assistance of the other members of the group. Many hospitals present an outstanding example of this saving, to both the patient and doctor by co-operative activities of the members of the hospital staff and the organized laboratory and clinical facilities of the hospital. The closed staff hospital is in effect a group clinic. From the economic standpoint all the advantages and disadvantages that may be cited in regard to closed hospitals, will apply to group clinics.

One boon of the clinic arrangement is the possibility of the individual absenting himself from the scene of his labor with clear conscience. Few doctors take vacations for the simple reason that there is no way to shift the responsibility. The clinic administration makes for an easy and fair rotation of absences—vacations, attendance at medical meetings—the much needed change of scene is permitted when the doctor knows his absence works no hardships on his patients, when he knows they are being given the high standard of attention maintained by his group.

Another result of the clinic is the extended and thorough nature of the routine examination. This is usually a matter of gradual evolution. Growth in numbers and facilities brings about an adequate routine examination that is impossible for the individual doctor to give his patients.

The disadvantages of group practice from the economic standpoint, is the ever-present tendency to let overhead expense increase out of all proportion to the income. Second, a tendency for duplication of work. Third, a tendency to rely too much upon expensive laboratory procedures rather than clinical judgment. Fourth, the difficulty in collecting adequate fees for the extra amount of work done. Fifth, it is almost impossible to obtain efficient additional physicians on a salary basis.

*Read in Symposium in Medical Economics before Illinois State Medical Society, Seventy-eighth Annual Meeting, Chicago, May 10, 1928.

THE NON-TEACHING HOSPITAL AND ITS OUT-PATIENT DEPARTMENT*

W. C. DANFORTH, M. D.

EVANSTON, ILL.

Properly speaking, there should be no hospital which is entirely a non-teaching institution. A hospital which is not teaching somebody is dead and should receive decent and reverent interment. A hospital may not provide for clinics and ward walks for students, but it should be a source of instruction none the less. I pass over the teaching of nurses as I am to discuss the "Relationship of the Non-teaching Hospital to the Community." Three groups of people are benefited by such an institution, if it fulfills its mission as it should. These are, the internes who serve in it and later serve the public as doctors, second, the physician whose patients are cared for in the hospital and third, the patients who in the wards and out-patient department are cared for and advised. In the care of many of these the social service department is a tremendous help.

The non-teaching institution the work of which I am to discuss consists of a group of buildings with beds for 250 patients. It contains a fully equipped laboratory with a director and assistant and a staff of technicians. All of the

*Read in Symposium on Medical Economics before Seventy-eighth Annual Meeting of Illinois State Medical Society, Chicago, May 10, 1928.

usual departments common to large hospitals are present in a fully developed state, including an occupational therapy department. An out-patient department is maintained with hours and attendants provided for the different divisions of medicine. The medical organization varies from that usually found in non-teaching institutions. It is divided into three divisions, the division of medicine, including neurology, pediatrics, and dermatology; the division of surgery, including orthopedic surgery, oral surgery, urology and oto-laryngology; and the division of gynecology and obstetrics. In charge of each of these is a chief. He is responsible for all the work of his division. All work in the charity service of a division is done by men selected by the chief. These become members of his department and he is responsible for the character of their work. This necessarily entails care in selection on his part and tends to place the responsibilities of the service in the hands of men who are actually, rather than nominally, qualified to carry them. It also operates to place the opportunities of the service in the hands of those who will profit by them. This, I believe, is proper. The poor patients, who cannot select their own physicians, are well served, and at the same time the hospital is aiding in the training of physicians and surgeons whose experience and skill constantly increase in value. Even though students in classes may not be taught, a hospital in which large opportunities exist, can, by developing able young men under the guidance of an experienced chief of service, perform a service to the community. It may in this way add to the supply of properly developed specialists in the various fields of medicine. There are not too many of these, although the crop of near-specialists is beginning to cause concern in the minds of many of our sanest men.

A courtesy staff, who do not assist in the charity work of the hospital, are accorded the privileges of the institution. Its number must be limited by the physical capacity of the hospital. Their work must be of a character which, in the opinion of the chiefs of the divisions in which their work may be, will not be prejudicial to the best interests of their patients. They are welcome at all times to such aid as the chiefs or their associates can give by discussion, advice and consultation. There is no doubt that since this arrangement has been in force the average character of work done in the hospital has improved. Those who operate hospitals should not fail to realize that they owe a duty to the community beyond the mere provision of beds and nursing. A non-teaching hospital need not countenance poor work and it fails in its duty to its community if it does so. Furthermore, if it does so, the worth while doctors of the community will not support it.

The out-patient department is an important phase of our work. It has its own supervising nurse, records and a number of rooms fitted for various sorts of work. A waiting room of adequate size is provided. Medical attendance is provided by the younger members of the various divisions. It is open all day and in addition an evening clinic is provided for heart cases. That such a department of hospital activity is valued by the community would seem to be indicated by the usually full waiting room.

A department of social service is of great service to us. It is under the supervision of a trained social worker who has four assistants. Her office is next to the out-patient department. One of the important functions of social service is to determine whether patients applying for free service are properly entitled to it. Friendly relations with neighboring physicians are disturbed by a hospital clinic which cares for people who are not justly entitled to free care. The functions of this department do not vary from those of similar departments in teaching hospitals. It is of immense value in following up patients after discharge. Since its establishment five years ago it has investigated, followed up, or in some way served nearly 5,000 patients. It could not be dispensed with.

That work of a grade equal to that done in teaching institutions cannot be done in a non-teaching institution I believe is an error. The Mayo Clinic was for many years a non-teaching institution. No one pretends that its work was inferior or that its patients received less than patients in other hospitals. The respect in which an institution is held in its community depends entirely upon the kind of work done in it. This in turn depends upon the kind of men who work in the hospital. The community if it is worthy will respect it and support it. The rights of

surrounding physicians must be carefully respected.

I close as I began. A hospital which teaches no one is already dead. If it is a source of inspiration and help to the physicians and their patients it is fulfilling a useful purpose.

In the year 1927 11.9 per cent of the work of the hospital was done for patients who paid for neither bed nor medical care. In the same year 55.5 per cent of the work done was for ward patients who paid for their beds in part or wholly. A part of these paid small sums for medical service and were not properly service cases. It will be evident, therefore, that the institution is by no means wholly devoted to private room patients.

THE GENERAL SURGEON*

M. L. Harris, M.D.
CHICAGO

The symposium this evening is on medical economics. We define economics as the science which investigates the production, distribution and consumption of wealth, or the means for fulfilling one's desires. There are several subdivisions of the general subject of economics. We have to deal only with economics as applied to medicine and the practice of medicine. This involves not only the general surgeon but the general practitioner. Desire is the motive underlying practically all human activities. Desire may take several forms. In the practice of medicine the desire coming first is the necessity of earning a means of livelihood; then there is the desire to acquire wealth; the desire to acquire fame. The desire to acquire wealth pertains not only to the physician but to humanity in general. The desire for fame when it is based on a desire to benefit or a desire to do something for humanity is a noble thing. This is usually the basis of the work done by those in research laboratories, to develop something of great value to humanity and the diseases of humanity. It is in the other two subdivisions of desire that we will devote a large part of this talk. The first is the desire which causes the physician the greatest amount of trouble and through which he loses much of the benefits which should come to him from his work. I shall take up the benevolent side first. By that I mean the desire to be of some use and value to the individual. By altruism I mean the desire to do something for humanity and the public in general. There is a great difference between benevolence and altruism. What one may do to the individual, the care he may give him, the charity which he may bestow on him is an individual matter which comes from the heart of the one who is giving it and is an act of humanity. The practice of medicine is a humanitarian occupation. When it comes to altruism or doing those things which benefit the public, we have a matter of business. It is business entirely with the physician or should be. It is in this line that he is imposed upon to the greatest extent. The physician is imposed upon in the line of altruism greater than any other person. In every altruistic proposition which is brought before the public that involves the question of health, the physician is called upon and he is called upon first. He is called upon to do altruistic work and philanthropic work but he is not supposed to be compensated for it. Every other person connected in carrying out the work of altruism is compensated for his labor, but the physician doing altruistic and charitable work is called upon to give up his time and his labor for nothing. Now this is where the physician should have a little business acumen. He should learn to distinguish very clearly between his obligation to the public or to humanity and his obligation to the individual and he should by this acumen be able to distinguish, when he is asked to contribute his services to an altruistic proposition, between what part of it belongs to him as an individual and what part belongs to the community. He should contribute his work or his mite to the proposition, whatever it might be to just the same extent as any other individual in the community, should it be in the shape of money, work or what not. When he has done that he should see that his services beyond that point are properly compensated.

In the question of economics there are three parties involved, the patient, the doctor and his family, and the public. The relations of the physician to the patient are of a contractural and also of a moral nature. The duty to himself and his family we all understand. He has a

*Read in Symposium on Medical Economics before Seventy-eighth Annual Meeting of Illinois State Medical Society, Chicago, May 10, 1928.

duty there and that duty is to take care of them. His duty to the public I have already tried to explain. It extends just so far as the duty of every other citizen extends. The physician has a duty to perform to the public and that is to take care of the sick. This duty cannot be shifted to any other group of individuals. There is no group of individuals competent to care for the sick except the physician. This duty therefore must be fulfilled. It cannot be delegated to anyone else. The profession must either fulfill its entire duty in this respect or the work will be done by the state. The profession must make provision for caring for all of the sick all of the time. How can it do that? By organizing the county medical society into a group clinic which will make provision for caring for all the sick all the time and at a price depending on the economic status of the patient.

THE INTERNIST*

EMMET KEATING, M.D.
CHICAGO

This program bears some resemblance to a horseshow, with some modifications. When we go to a horseshow we see horses perform work for which they are suited and particularly trained. On this program there are some ten physicians who are exhibited as representative of ten classes of doctors.

Tonight we have heard from three surgeons. We have not seen them perform the duties which they are fitted to perform and which they perform in so skillful a manner. We have heard from the general practitioner but we have not seen him take temperature, feel a pulse, take a history or develop a diagnosis. We have heard a great administrator of a great medical school tell us very correctly, and to our satisfaction, the duties of a medical school, but we have not seen how this eminent administrator really accomplishes his work.

My part on the program is to exhibit the pace of an internist. The internist as a distinct species is fast becoming extinct and I am glad that such is the case. I am glad for one reason, because the word internist does not convey any particular or definite meaning. If a carpenter asks a doctor what his specialty is and the doctor says he is a surgeon, the carpenter at once knows that this man is engaged in cutting, sawing and sewing. If he asks an oculist the same question, there are very few who will not know that an oculist deals with conditions confined to the eye, but when the mechanic, business man, lawyer or a minister asks a doctor what his specialty is and he says he is an internist, it does not mean anything at all.

Now, the internist flourished up to about twenty-five years ago. At that time the range was limited, the Class A medical schools began supplying the country with men who knew as much as internists and sometimes knew more. They were educated for the purpose of taking care of the ills of the community, minor ills that are unimportant and major ills that require all the skill and resources the general man possesses, including those conditions that require the attention of those who have confined their study to a particular specialty. They are called general practitioners or family doctors.

The old time family doctor, about whom Dr. Chapman has told us, has passed out of history never to return. His place has been taken by men who are eminently qualified to take care of the people in their community. They are eminently qualified to do any of the things that any physician may do, but better than that, they are eminently qualified to know, when the time is ripe, that those patients should be sent to men in the different specialties, who, because of their concentration of work, are capable of giving service that men in general practice cannot give.

The internist, then, has been supplanted by the general practitioner, but the general practitioner is not living up to his responsibility, and he is not assuming the position in his community that he should.

I would like for the wife of every physician in this audience, whose husband is a general practitioner, to constantly urge him to become what was formerly known as an internist; that is, to be able to take a careful and complete history, to be able to make a complete physical examination, and, finally, to be able to make a correct diagnosis. If he thinks that he has not had sufficient practice in doing these things, remind him that if he will study carefully each

*Read in Symposium on Medical Economics before Seventy-eighth Annual Meeting of Illinois State Medical Society, Chicago, May 10, 1928.

patient who comes to his office, whether he expects to get a large or a small fee, it will not be very long until he will find himself in possession of a knowledge that will command the respect of the specialists. The public will soon learn that they need not go into foreign fields to find someone who is entirely capable of giving them proper counsel, proper advice and proper medical care. They will find that the family doctor knows his work so well that they need have no fear that, if something arises that he feels needs the attention of a specialist, he will promptly send them to someone who has properly prepared himself for that particular kind of work.

THE GENERAL PRACTITIONER*

P. R. BLODGETT, M. D.

CHICAGO HEIGHTS, ILL.

I am glad that my part of this program pertains to the subject from the standpoint of the general practitioner in Cook County. To the class of general practitioners belong the rank and file of the profession. These physicians are the backbone of the profession. They are the doughboys of medicine. We know that wars are won by the infantry. This is equally true in medicine; its victories are ultimately won by its infantry, the general practitioner. In this great professional army, which has for its objective the conservation of human life, we must have the various branches of the service, including special troops, aeroplanes and gas-bags, and the noncombatants; but it is the general practitioner, the man who is out on the firing line in hand-to-hand combat with the problems of the profession as a whole, upon whom the victory depends. Unless the general practitioner has ability and exercises judgment, the entire structure falls. The fact that medicine occupies the position that it does today is due in no small part to the high type of men in general practice.

The general practitioner is the man who carries the practice of medicine to his community. His is a personal service. He sees his patient as an individual possessed of a complete anatomy, not alone from the standpoint of a Fallopian tube, a deviated septum, a pes cavis, or an ulcer on the skin. In the great majority of instances, the reponsibility for the care of the patient rests upon him. His standing in the community, as well as the standing of the profession, depends upon his ability to practice good medicine.

A great many would have us believe that the general practitioner is the clearing house for the specialties. No opinion could be more erroneous. Specialists are of value to the general practitioner in rendering the highest type of service to his patients. They are valuable adjuncts to general practice. With the numerous specialties, all of which at times go off on a tangent, the profession is dependent upon the general practitioner to keep its head clear and its feet on the ground. The general practitioner is the balance wheel of medicine.

There are a great many economic problems confronting the profession. I appreciate that the various groups who make up the profession each have their separate problems, but the issues facing the general practitioner will determine the future of American medicine as an independent profession with its own leadership and its own control.

In Cook County, the greatest single problem facing medicine, and the general practitioner in particular, is the abuse of medical charity. In this great center of population, there is a great deal of legitimate charity. We have in Chicago The Infant Welfare Society and the practice of medicine by the City of Chicago, The Cook County Board, and The United States Veterans' Bureau. In the outlying districts, we have The Chicago Tuberculosis Institute and the ever-increasing activities on the part of the County Board. All these organizations in encouraging the abuse of medical charity affect principally the general practitioner.

We have corporations practicing medicine. they affect the entire profession as they affect the general practitioner.

The quacks we have with us. Here in Chicago is the greatest quack institution of all times, the Public Health Institute.

We have here the practice of medicine as it is conducted by our medical schools. I was glad to hear Dr. Cutter say tonight that Northwestern is setting its house in order to the end that it will admit only deserving charity cases. May the day soon come when all medical schools will follow the same course. I know that one

*Read in Symposium on Medical Economics before 78th Annual Meeting of Illinois State Medical Society, Chicago, May 9, 1928.

of our medical schools has entered into an entangling alliance with the "boss" quack institution. The majority of our medical schools are practicing medicine in competition with their own graduates. Our medical schools have a definite place in the profession, but not as corporations practicing medicine.

The wholesale dispensing of charity, as practiced in this county, is an economic as well as a social failure. It pauperizes the individual. The pauperization of the individual in any respect is a bad thing for society. Such a program destroys a part of the self reliance, the independence, that goes to make that individual an asset to society. The profession has given more to legitimate charity than all other agencies combined. This contribution, to the welfare of society, is in every instance a personal one; it is that kind of charity which helps the individual back on his feet so that he may become again a useful member of society, but is never the type that pauperizes him. Society in handling its charity problems might emulate the stand taken by the medical profession.

In this country we are being overrun with a socialistic bureaucratic trend of government. It is centering itself more particularly upon the treatment of the sick.

Paternalism in government defeats its own purpose—it harms those it would help. In no regard has this movement gone further than in the care of the sick. Those behind these movements are professional reformers and political rascals.

Our economic problems are real ones, our failure to adequately solve them will cripple the profession. We all have an obligation to our profession. Our value to organized medicine is measured in terms of our ability and inclination to work in harmony with other men in economic salvation as well as scientific advancement. In order that any profession may render the type of service that society demands of it, society must make it possible for that profession to maintain its economic independence. Society must be made to appreciate its obligation. Without adequate medical care, society will suffer.

We have long been lacking in a definite policy in regard to our economic affairs. The time has come for us to take a determined stand upon these problems as a profession. Nothing can be done until there is a genuine determination to do it. Four thousand Doctors in Cook County, working together, can accomplish anything within reason. These problems can be handled in a satifactory manner when the profession is willing to apply itself to its economic problems with the same earnestness that it pursues activities in scientific directions. At the last meeting of the Council of the Chicago Medical Society, provisions were made for the establishment of a commission to study these various economic phases of practice. I hope and pray that out of this commission will come a definite constructive program which will lead to the solving of our economic problems. We have temporized too long already. The time has come for us to work out our own economic salvation.

Medicine has an obligation to its posterity. There is a definite duty which we owe to those who are to follow us in the practice of medicine. Along with those scientific advancements which will make it possible for them to practice better medicine, we must safeguard the economic status of the profession in order that they may be able to render that service.

I am intensely interested in medical economics. When I came back from France, the boy I had never seen was almost a year old. He is my pal, he is my partner. I want him to study medicine. I want to see other boys study medicine. One of my duties is to do everything that I can to keep this economic phase of medical practice where my boy can carry on his professional work. Every time I look into his little upturned, trusting face, I renew again my pledge to him: "I will keep faith with you."

CODE OF ETHICS

Extract from original manuscript of a History of the Illinois State Medical Society During the First Fifty Years of its Existence by N. S. Davis, Chicago, dated May 15, 1900.

"Though individual memberships thus rapidly change, the Society and its purposes remain the same. These purposes or objects as declared in the Preamble to the Constitution adopted in 1850 were, "for cultivating and advancing medical knowledge; for elevating the Standards of Medical Education; for enlightening and directing public opinion in regard to the duties, responsibilities and requirements of medical men; for exciting and encouraging emulation and concert of action in the profession and for

facilitating and fostering friendly intercourse between those engaged in it."

Report of the Special Committee on Explanatory Declarations Concerning the Proper Interpretation of the Code of Ethics appointed at the Annual Meeting in Washington, May 9, 1884.

"Your committee, having given the subject referred to it due consideration, respectfully submits a brief report in the form of a preamble and resolutions as follows:

"WHEREAS, persistent misrepresentations have been and still are being made concerning certain provisions of the Code of Ethics of this Association, by which many in the community and some even in the ranks of the profession are led to believe those provisions exclude persons from professional recognition simply because of differences of opinions or doctrines, therefore

1. *Resolved,* that Clause first of Art. IV in the National Code of Medical Ethics, is not to be interpreted as excluding from professional fellowship, on the grounds of differences in doctrine or belief, those who, in other respects are entitled to be members of the regular medical profession. Neither is there any other article or clause of the said Code of Ethics that interferes with the exercise of the most perfect liberty of individual opinion and practice.

2. *Resolved,* that it constitutes a voluntary disconnection or withdrawal from the medical profession proper, to assume a name indicating to the public a sectarian or exclusive system of practice, or to belong to an association or party antagonistic to the general medical profession.

3. *Resolved,* that there is no provision in the National Code of Medical Ethics, in any way inconsistent with the broadest dictates of humanity; and that the article of the Code which relates to consultations cannot be correctly interpreted as interdicting, under any circumstances, the rendering of professional services whenever there is a pressing or immediate need for them. On the contrary, to promptly meet emergencies occasioned by disease or accident, and to give a helping hand to the distressed without unnecessary delay, is a duty fully enjoyed by every member of the profession, both by the letter and the spirit of the entire Code. But no such emergencies or circumstances can make it necessary or proper to enter into formal professional consultations with those who have voluntarily disconnected themselves from the regular medical profession in the manner indicated by the preceding resolutions." New Orleans, La., April 28, 1885.

Committee: N. S. Davis, of Chicago, Ill.; A. Y. P. Garnett, of Washington, D. C.; H. F. Campbell, of Augusta, Ga.; Austin Flint, Sen. of New York; J. B. Murdock, of Pittsburg, Pa.

DISCUSSION ON SYMPOSIUM ON MEDICAL ECONOMICS

Dr. J. F. Hultgen: The general practitioner is now having twelve consultants. We conclude, therefore, that he is very sick. He has been recognized tonight as never before. He surely has the ground floor and although he is at the end of the program the amount of attention paid to him all during the week, and especially tonight, would have been unthinkable a couple of years ago. I believe that the general practitioner has come to life and has come to stay. Among the great, perhaps unlooked for, results of the great war and one of the most important things is that in all fields of human endeavor is the question of economic problems foremost. I glory in the fact that the practitioner has finally awakened and recognized his place in the sun.

I could recapitulate what these twelve gentlemen said. They said very beautiful things. Never before have I heard so many handsome things about him. As you hear from the first paper, Dr. N. S. Davis, Sr., that great man, the great medical society organizer, did not think of the practicing doctor himself. He was an idealist. He never thought of the practitioner, of the man himself. He never taught him to take care of his health, how to keep his family, it was all for the service of others. The medical profession worked a long time in the light of that teaching but the time is ripe for the medical profession to think of the economic side of life. The Illinois State Medical Society has done a great service to the medical body in calling so much attention to it. The practitioners must provide the balance wheel which Dr. Blodgett talked about. The teaching side of the medical profession has had the ear of the practitioners for the last sixty or seventy years. The family physician has never been heard of, but now circumstances, and a good many of them outside of our own profession, have forced us to do a little thinking of our own. All kinds and conditions of men need criticism; they need it more than the flowers need sun. Without criticism we would rot. Literature without criticism would not be literature but pornography. I am not saying anything against the teaching body as individuals or as a class but they need that nice balance wheel of criticism that can only be provided by the intelligent general practitioner. We have not allowed the teachers in the American universities to run our government. There is no country in the

world where intellectuals alone run things. We ought to be thankful for this. Knowledge alone will not make a man wise or philosophical.

Another way to give the general practitioner the chance which we believe he has not had is to take better care of his own health. He has therefore not been able to increase his knowledge without unduly sacrificing himself in order to render better service as he grew older. Thirdly, he has not been able to provide properly for his family. No other class has been so much disregarded or forgotten as the practitioner. As a consequence we see a scarcity of physicians. I do not believe you can contradict me if I say this, that the best in every group of society has always been forthcoming from the lowest one, and the more neglected they are the more apt there is to be disintegration not only of the service but of energy of the profession as a whole.

Dr. G. B. Lake, Chicago: My observations lead me to believe that any physician who is in an economic position that is not satisfactory to him has no one to blame but himself.

The time was when the physician expected only an honorarium. The time has now come when the money we receive should be considered as an honest remuneration for our work, just the same as is the money the grocer receives. The physician who expects to be in a satisfactory economic condition must be a regular business man. He must remember that, while he is a professional man, he is also a business man, for his own sake and for the sake of his family. If he is not a business man he has no right to be in the practice of medicine.

The physicians who expect to succeed expect to be paid for the services they render. The only reason one man pays $8,000 for a Lincoln car instead of $500 for a Ford is because he believes it is worth the difference. The man who expects to do "Ford" service will receive "Ford" fees, and the man who gives "Lincoln" service will receive "Lincoln" pay. It is up to every physician to make himself worth what he charges. The patients will pay for services that are worth it. There will not be any question.

Every once in a while you hear physicians quarreling and saying medical organizations are all run by a clique. The people of Illinois have recently demonstrated that the greatest political machine of the country could be smashed. Let some of the physicians who do so much complaining about the way the medical societies are run, do a little more of the work themselves and take a little more interest and responsibility in organized medicine.

Dr. Chas. A. Coffin, Kewanee: A matter that was not brought out tonight has to do with the general practitioner. During the past three or four years we have heard nice things about the general practitioner. We are being told what an important position we occupy in the medical field, but I believe it is time for the general practitioner to speak up for himself and present some of his problems so that his fellows can help him meet them. The part I wish to refer to can be corrected if members of our profession will think a little more of the other fellow. I refer to the patients who slip away from us and we do not see them again. Many of these patients secretly consult the clinic or the city physician, because they haven't the courage to tell the local man that they wish the opinion of someone else. I have patients who come to Chicago and I get a letter from the physician they consult and they come back to me. Others come to Chicago or go to different clinics and I do not hear a word. I recently had a case of a woman being treated for syphilis by a noted clinic. I believe two or three letters passed between her and this institution, one of them informing her that she need not consult her local physician and directing her to take remedies from their drug store. This practice I think is contemptible. Ten years ago I usually got letters back on these cases. For the past two or three years I have only received reports from the men who happen to know me. I find that the patients come back to us in a better frame of mind if these city men do not assume that they have been poorly diagnosed or improperly treated. A little more attention to this phase of our work would bring about a correction of any errors and these patients would return to us better impressed with the whole procedure and having greater respect for our profession.

ORGANIZATION AND MAINTENANCE OF A COUNTY HEALTH DEPARTMENT*

W. H. Newcomb, M. D.
Health Officer
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County health service under the direction of a physician who is alert and well trained in disease prevention assures rural and semi-rural communities of a well directed health program. The need and demand for such service becomes more apparent as the layman becomes informed about disease prevention. A county health department organizes and coordinates the health activities, eliminating duplication, and maintains well balanced health activities.

Organization. Health units may economically be maintained by counties with a population of 25,000 or greater. Smaller counties may be combined into a health district. Counties having cities not exceeding 50,000 population may better have a combined city and county health department under the direction of one health officer. Local and state health laws and regula-

*Read before the Section on Public Health and Hygiene, Seventy-eighth Annual Meeting of the Illinois State Medical Society, Chicago, May 8, 1928.

tions should be enforced by the county health officer throughout his jurisdiction.

The board of county supervisors or commissioners usually have the power to appoint the county health officer. Many states have county boards of health appointed by the board of county supervisors, or by the State Board of Health. The health officer in this latter case would be appointed by the county board of health. Where a city is combined with a county in a health unit and where no county board of health exists, the mayor, city council and board of county supervisors or commissioners must jointly appoint the health officer. The health officer of Morgan county is appointed under this plan. Political appointments may be made under any of the above organizations, and must constantly be guarded against. All appointments of health officers should be approved by the county medical society, and by the State Department of Health. All counties should have county boards of health, if not legal, an advisory board of health should be appointed by the county health department with approval from the county commissioners.

States having a number of health departments usually have a director from the State Department of Health for supervision. He should assist the county health officer with the various divisions of health activities.

Unofficial health organizations should work with and through the county health department. Lay organizations for promotion of health may well be included in the county advisory board of health. The county health unit should work with the county medical society, unofficial health organizations, and with the State Department of Health.

Personnel and Maintenance. Each county health unit should have a full time medical health officer with special training in disease prevention; one or more graduate nurses with graduate work in public health; a trained sanitary officer, and an office clerk. Smaller units may be maintained with a full time medical health officer and full time public health nurse. An office clerk is, however, indispensable for keeping records, correspondence and general work about the office. The expense for the smaller unit is usually not less than $10,000. Fifty cents per capita will give a good working organization for the average county.

Activities of a County Health Department. Health activities vary as to communities. Sanitation, communicable disease control, school hygiene, tuberculosis control, vital statistics, infant and maternity welfare, health education, dental hygiene, and venereal disease control, cover the usual activities of a county health department. County health work is the general practice of public health.

Sanitary surveys of various communities in the county will give some insight of the disease problem. The follow up of the surveys will eliminate improper disposal of human body wastes, will help in assuring the public and individuals of a safe water supply, will show the necessity for proper care of milk, and will give an index to prevalent diseases. These are the major duties of a sanitary officer, who likewise cares for disposal of garbage and rubbish, and for various nuisances. His activities must be reenforced by the laboratory and by the health officer.

Communicable disease control for the most part should be conducted by the health officer and nurses. Cases must be reported by physicians; careful epidemiological histories must be obtained by nurse or health officer on all cases of typhoid fever, scarlet fever, diphtheria, poliomyelitis, smallpox, malaria, tuberculosis, and other diseases as the necessity demands. Vital statistics must be accurately compiled and studied by the health officer. Spot maps, chronological charts, sanitary surveys, water and milk analyses reports must all be at hand for working out the various communicable disease problems. Instruction in isolation technique can be best carried into the home by the nurses, who are the logical individuals to establish quarantine. Isolation hospitals and laboratories are adjuncts to all disease control. Vaccines, sera and the like should be administered by the family physician when possible. In case of a serious epidemic wholesale vaccination is a necessity.

School hygiene is probably the most important of all activities. The health officer and nurse should outline some health education plan for each school to follow. Physical defects may be found by the physician's examination or by the

nurse's inspection. Children needing medical care are then referred to the family physician or dentist for proper attention. Inspection of school children for communicable diseases as necessity demands, detects many early cases. Such a program removes the infection from the school early and should prevent the closing of schools because of communicable disease. Fresh air schools, camps, and the like are a part of the school program.

Tuberculosis control involves school hygiene, communicable disease control, periodic health examinations, the finding, isolation and care of those already infected, and health education. Nurses should be alert in referring suspects to their physicians or to clinics, if they are indigent. Public sanatoria for those infected are necessary because many of those with the disease can not afford to pay for the necessary prolonged treatment. The control of tuberculosis requires special methods and cannot be discussed in detail in this paper.

Vital statistics should be handled by the county health officer. All the births, deaths and communicable disease reports should go through the county health office. Vital statistics are of great help in locating trouble and measuring progress.

Infant and maternity welfare work should be largely educational. The actual work should be conducted by the physicians in the county medical society.

Venereal disease problems are numerous, requiring careful study before definite programs can be laid down. Clinics only for the indigent are of help. More cooperation is required from the physicians, druggists and others who treat venereal diseases.

Health Education is the most important function of a county health department. Newspapers, motion pictures, lectures before clubs and schools, health instruction in schools, use of literature, and personal instruction in the homes, are the usual methods carried on by most county health departments.

Mental hygiene, prevention of accidents, and other special activities may require more time from the county health department in the future.

The county health officer should not give medical care to indigents and should not practice medicine. A county health department is for maintenance of health. Medical service for the poor needs some other solution.

Results

The Morgan County Health Department has been in continuous operation since 1922. The county medical society and lay people of the county have given friendly cooperation to the department. Communicable disease control, school hygiene, tuberculosis control, sanitation and health education are the major artivities of the department. The work of the organization has gradually increased, pointing toward satisfactory solution of the major controllable disease problems.

A careful program for communicable disease control has helped cause a decline in the preventable disease incidence, although more cases have been found. Improved living conditions, decrease in communicable disease severity, increase in the number of immune individuals, improved sanitation, and education in disease prevention have been associated factors. Morgan county has at least a well worked out plan for communicable disease control.

Medical inspection of school children and health education in the schools have been made possible through the health department. Nurses and health officer have made many visits to the 108 rural schools each year. Physical defects have been noted and brought to the attention of the parents. The total number of corrections have increased each year. Accurate statistics are only available for the past three years. The Board of Education maintains a school nurse (and at times two), who cooperates with the local health department.

Dental, nose and throat, and vision defects make up the greater number of the total. These cases were all referred to their family dentist or physician for care. These activities alone show the need for a county health department, and what can be accomplished. The work is entirely educational. Corrective work is entirely in the hands of the dentists and physicians.

These various schools have likewise been watched for communicable diseases. Daily inspection for suspected cases have been made when the necessity demanded, eliminating early the infection from the school.

Tuberculosis control has been strengthened by the activities of the county health department.

More cases have been found, and a declining resident death rate was noted until last year. This work is materially strengthened by the Illinois Tuberculosis and Public Health Association.

Sanitary conditions about Jacksonville have improved somewhat and a definite program has been outlined for the ultimate solution. The amount of pasteurized milk has increased so that 80% of all milk coming into Jacksonville is now properly pasteurized.

Educational campaigns on various preventable diseases have been conducted by the Morgan Health Department. These campaigns have helped educate the laymen about various diseases.

Definite results should be manifest after a county health department has been working during a five year period. Sanitation of the county should be radically improved. The milk supply should be essentially safe. Towns and villages should have safe water supplies. The controllable disease incidence and the infant mortality rate should show a decline, provided the rate is unduly high. Correction of physical defects in school children should be rather numerous. Careful records should be kept and periodic check-ups should be made. Definite policies and activities must be outlined and enforced.

CONCLUSIONS

1. All counties or combinations of smaller contiguous counties should have well organized health departments, directed by a medical health officer.

2. The county is the logical unit and a full time county health officer is the logical director for all health activities in his county.

3. County health departments should be non-political and should live or die on their merits.

4. The county health officer must work with the county medical society.

5. The duties of a county health officer should be for disease prevention.

DISCUSSION

Dr. Isaac D. Rawlings, Springfield, Ill.: When I entered into state health work from the city of Chicago after twenty-one years of service, I was very desirous that we would be able during our term of office to make great headway on rural health work.

We realized that the main way to do that would be through county health units.

The first day I was in Springfield, I happened to meet the Honorable Edgar Crabtree, mayor of Jacksonville, located in Morgan County, an old friend with whom I had gone to school. Some of you may know him. He served down there for seven years without salary as mayor of the town, and I asked him if he couldn't in some way work out with me a county health unit as a demonstration. It was near Springfield, the adjoining county, and we hoped that would help to sell the idea to our legislators if we tried to get a law or an enabling act permitting county health units.

We established this unit in 1922, and, as you see, it has been working continuously since. I think the demonstration has been a success, and I have been proud of the work that is done in that county.

We have tried at four sessions of our legislature to get a county health bill passed. I am sorry those present here are not the group that has to be sold to the county health unit idea. There are few here but what believe that is the logical unit, as the essayist has told us.

There are only one or two points I wish to bring up that Dr. Newcomb did not mention. The principal one is the question of a modified quarantine. In counties or cities where they have a full time health officer who is on the job and has adequate force for supervision, we permit a modified type of quarantine. This minimizes the hardships of quarantine to a great extent.

One of the commissioners in Morgan county told me that during one year, by permitting modified quarantine for the wage earners in that county, the saving of money, which they had formerly been spending for the alleviation of the distress of the poor that were shut up under quarantine, was more than their share of the cost that year for this public health unit. Their share was approximately one-third of the total unit cost.

This modified quarantine not only helps in the cities, but also in the dairy districts, as we have an absolute rule that where there is a case of scarlet fever, or other major contagion on the dairying farm, the stock must be moved away from that case of contagion if they continue in business. That means not only moving the stock but the food for those animals. That works great hardship. If they have sanitary officers where they can carefully watch the quarantine, and be sure it is absolute, they are permitted to continue their activities on the dairy farm. Modified quarantine is one of the advantages, of the many which were mentioned by Dr. Newcomb, of which he did not speak.

The natural question arises, why has Illinois but three county health units if it is such a good thing, as we all believe it is?

The answer to that is that we have no law in this state that allows the commissioners and supervisors to spend money for preventive health work. Our law says the only money that may be expended is for pauper relief, except in the presence of an actual epidemic. Local health officers can not do any preventive health work until the epidemic is in

their midst, then they have a right temporarily to spend money until that emergency is passed, then they can not spend any more until the next epidemic.

One or two counties are taking a chance and spending money without the law. We have tried our best to get a law, and in the last session we failed by four votes. Certain opposition that caused us to lose that bill should not have materialized. It came through health officers who should have been with us instead of against us on that measure. We have now but three county health units in the state.

Dr. Samuel Wallace Welch, Montgomery, Alabama: I cannot comprehend how the inhabitants of any state in the American Union could oppose public health activities.

I am a firm believer in home rule.

There is but one way to put over any public health activity on a large scale, and that is for the people who are being benefited by it to realize that it is their particular property; that they are responsible to the community for its success. Building on such a foundation your superstructure will stand.

In Alabama we have two-thirds of our counties already organized and probably will have 100 per cent, not later than December 31, 1929. We have actively going since the first of November thirteen counties, and eight in course of organization now, making forty-nine in all out of the sixty-seven counties of the state.

The people of Alabama are thoroughly sold to the work. The legislators think of public health work in terms of the medical profession in Alabama. The doctors of the state direct the public health activities and dictate the policy of the board. In 1917 our appropriation was $25,000 for the entire state. It will be over $800,000 annually in 1931. That takes account of the county appropriations.

The doctors of Alabama compose the county boards of health and the state board of health, so that nobody can come in and dictate the policies to the medical profession of the state of Alabama. The entire matter is in their hands.

Dr. Eugene Lindsay Bishop, Nashville, Tenn.: I would like to take just a minute or two of my own time to reinforce what Dr. Rawlings and Dr. Welch have said relative to county health work.

Without the foundation of local health organizations no state health program is going to be sound nor will it be constructive. It can not give that measure of direct local service which must be given if death rates are to be reduced and if public health is to be conserved.

In Tennessee we are operating entirely from that point of view. Our total budget is not so high as Alabama's. It has increased materially in the last few years, but of $240,000 available from state appropriations to the department for all work, $85,000 is devoted to subsidies or state aid for county health work. That is how we think of it in Tennessee. We plan, ultimately, to have more than fifty per cent. of our total budget devoted to the development of county health departments.

This is a country of local self-government. Public health administration has hitherto, with the exception of city health departments, neglected one fundamental element of government, namely the local government.

We will never develop a sound program of public health administration until we have included that element of government in that department.

REVERSE MOVEMENT IN THE CONTENTS OF THE DUODENUM AND ITS PROBABLE SIGNIFICANCE*

B. H. Orndoff, M. D.
CHICAGO

Reviewing the physiology of the duodenum, Ivy states that absorption, secretion and motility are the three fundamental functions of the duodenum.

A study of the motor phenomena of the duodenum is very important because it very definitely expresses the state of the duodenum in all of its functions.

While it is well known that the duodenum is not a vital organ, that its entire surgical removal does not necessarily reduce the general health, it remains equally certain that improper function of the duodenum will create very undesirable physiological phenomena which may lead to irreparable pathological conditions.

The duodenum in function can be studied with considerable satisfaction in the radioscope while radiographic records are difficult to secure and usually leave much to be desired for study.

In the radioscope we are able to observe and study the reversed movements, peristaltic rushes, rhythmic segmentation and other intrinsic as well as extrinsic motor phenomena which may appear in the duodenum.

Since Ivy[1] has so recently reviewed the subject and recorded his own personal knowledge of the physiology of the duodenum in a contribution before this society, I will avoid extensive repetition of his work and endeavor to present a few findings observed during a study of the duodenum and particularly in pregnancy.

These observations have been conducted in cases throughout the different months of preg-

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nancy. The opaque media used has been for the most part, barium water mixtures, but barium infiltrated foods have also been used.

Patients have been observed at different periods of the day, and especially before and immediately after arising in the morning.

It was more than three years ago that I became aware of the unusual motion in the duodenal contents when an opaque meal was administered during pregnancy. All of the normal motor phenomena seem to be exaggerated. Rhythmic segmentation is almost constant. Peristalsis appears at more frequent intervals and is usually a firm wave of contraction passing hastily throughout the course of the duodenum, or becomes abruptly extinct at the approach to the distal flexure. Rarely a pause may be observed at the middle flexure. Reversed movements are observed with greater than normal frequency and one experiences little difficulty in distinguishing them from rhythmic segmentation.

Where reversed movements are studied in non-pregnant cases with intrinsic or extrinsic lesions or with associated referred spastic motor phenomena, the movement is usually not of a hasty character. When such a reverse movement starts at the distal end of the duodenum there is usually a pause at the middle flexure and it ceases at the proximal flexure, only occasionally it may fill the duodenal cap. The movement is frequently lost in the mesial flexure. No particular dilation of the duodenum is observed at any portion.

The importance of these reverse movements deserve more careful observation and study since they seem to have a definite relation to the physiology of the duodenum and stomach. Cases with hyperchlorhydria and gastric symptoms, seem to have more pylorospasm and an absence of the regurgitation of duodenal contents into the stomach. Cases with bulb lesions may show considerable pylorospasm but if reverse movements show that duodenal contents are regurgitated into the stomach, we will not find hyperchlorhydria and gastric symptoms in the history. It seems almost certain that the passing of material from the duodenum back through the pylorus into the stomach has a neutralizing effect upon the contents of the stomach and constitutes a definite phenomenon of normal digestion. Reverse movements passing the pylorus are common after a heavy meal towards the end of the gastric digestive period when the free acidity is high, and more noticeable in the prone than in the erect postures. This phenomenon serves to explain much of the symptomatic improvement noted in cases following gastroenterostomy.

Pregnancy seems to exaggerate the normal motor phenomena, and in addition, cause certain phases of motor activity which seem to me at the present time to be almost characteristic of pregnancy. The radioscopic picture is best observed during the early weeks of conception. It occurs more consistently during the morning hours. It has not been observed before the patient has assumed the upright posture. When nausea or morning sickness develops as the patient assumes the erect posture the characteristic reversed movement of pregnancy may best be observed in the duodenum.

As the first ingested portions of an opaque meal appear in the stomach, hypertonicity and hyperperitalsis of the stomach is observed with great uniformity. A vigorous gastric peristaltic wave carries the first large opaque mass through the pylorus filling the cap. After a slight pause at the proximal flexure, the cap is emptied in a forceful appearing manner, and the large mass passes hastily through the duodenum, usually showing only a brief pause, if any, at the distal flexure. There is no semblance of rhythmic segmentation nor reversed motion. Appearing in the jejunum the mass seems to mark the presence of a continued vigorous peristaltic wave, not ceasing until loops of lower jejunum or ileum occupying a position in the pelvis have been reached.

Returning to the stomach, it will be observed to resent distension with food by showing deep peristaltic incissura and an apparent attempt to empty through the pylorus rapidly. Rhythmic segmentation is observed particularly between the proximal and mesial flexures as well as between the mesial and distal flexures. These soon assume an exaggerated form which results in a heavy wave of peristalsis originating at the proximal flexure and passing through the duodenum to the distal flexure or duodenojejunal junction. Here a delay is inaugurated, and soon the movement of contents ceases. Succeeding gastric and duodenal peristaltic waves continue to fill the duodenum to more or less over distention. At this time the characteristic reversed movement

of pregnancy is observed. It is seldom initiated in typical fashion until about one-third or more of the duodenum is distended.

This reversed movement carries almost uniform diameter back through the duodenum, passing the flexures without pausing, and very frequently manifesting little or no hesitation at the pylorus. In the stomach much of the same motion observed in the duodenum prevails. Frequently the reverse movement is checked only by the cardiac sphincter and when the patient is examined while in the reclining posture, the reversed movement has been observed to continue proximalward into the esophagus and on until it was expelled into the mouth or returned to the stomach from the upper esophagus by the act of deglutition.

The duodenum is now empty except for a very small amount of opaque substance which may permit the succeeding vigorous reversed motor phenomena to remain visible. After one and in some cases not until after more than a dozen of these reverse waves have been completed, will the normal action of the stomach and duodenum be resumed.

I will not attempt to offer comment upon the anatomic and physiologic mechanism embodied in this particular phenomenon nor can I venture into a discussion of the clinical significance.

It would be interesting to know its relative constancy in pregnancy, its possible presence in other systemic and local conditions, its true relation to normal digestion, nausea, vomiting, and the pregnant uterus.

In closing I wish to say that while our observations have not yet covered sufficient material to warrant the deduction of definite conclusions, I believe that a form of reversed movement has been observed which is characteristic of pregnancy.

DISCUSSION

Dr. Alonzo B. Tenney, Chicago: I'd just like to register these observations for what value they may have:

For the last eight or ten years I have occasionally found cases of periodic headache or bilious attacks or migraine—whatever you wish to call them—in patients who had a marked degree of gastroptosis with resulting tension upon the duodenum and I assumed, without proving it, that part of the first flexure of the duodenum was put under tension by the duodenal hepatos ligament and drawn into an abnormal position.

These cases showed the presence of bile in the gastric contents at the times that they were ill and I gave a preliminary report on those observations four or five years ago, but have not followed them up. It seems that such a masterly paper as Dr. Orndoff has presented, and such an excellent discussion as we have had, would almost preclude desultory remarks of this sort, but I just want to put that question to Dr. Orndoff as to the possible relationship of gastroptosis in the inducing of some of these conditions in a non-pregnant woman.

Dr. F. J. Ronayne, Oak Park: Of course Dr. Orndoff's paper dealt with reverse peristalsis in the duodenum as found in cases of pregnancy. I think it is an extremely hard thing at times to be very sure of reverse peristalsis. I know I have watched cases very carefully. We have never observed the rhythmic contractions that he speaks of, but we know that in some cases the meal passes very rapidly from the stomach and in some cases it is hard to identify the pyloric canal. It is probable in that type of case that very rapid reverse peristalsis occurs. That is, it is hard to say whether the meal is escaping very quickly, whether it is a true reverse peristalsis or whether the meal is escaping in a very peculiar manner and passing down the duodenum.

We have always felt that it was of significance at least in the diagnosis of ulcer. In the literature it is claimed that it is almost pathognomonic of gall bladder disease and in a case within a few months, in an unguarded moment, because I found no direct evidence of ulcer (that is, ulcer crater under fluoroscopic examination) I made a diagnosis of probable gall bladder disease because of this reverse peristalsis in the duodenum, and this was proved to be incorrect at operation because the ulcer was in the pyloric canal.

But we had stated that we had not visualized the pyloric canal at the fluoroscopic examination.

TULAREMIA*

TOM KIRKWOOD, M. D.
LAWRENCEVILLE, ILL.

Tularemia has been called the infant among the diseases of man. This is true so far as our acquaintance with it as a clinical entity is concerned. As a matter of fact it has probably been with us for years but has been hidden away in that group of infections for which we so conveniently use the shot-gun diagnosis of "septic infection." Because it is a new disease it is easy to attach undue importance to it. Because it is considered rare, it is easy to forget about it when it should be remembered. It goes without saying

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that it is not nearly so important as typhoid fever, staphylococcic or streptococcic infection, influenza, anthrax and some other serious diseases with which it is so often confused. It is not as dangerous to human life as these diseases and, excepting anthrax, will not be seen nearly so often. However, it is much more common than is generally supposed, and is of sufficient importance to justify a careful study by every practicing physician, regardless of his type of work. The prognosis alone, in the usual type of tularemia is so much better than that of the diseases for which it is mistaken that every physician should know enough about it to recognize a case when he sees one. It is unfair to a patient and his family, and in some instances to the community as well, to tell him that he has typhoid, blood poisoning, or anthrax when he in reality has tularemia. I have also seen patients where such diagnoses as syphilis or tuberculosis of the glands had been made, with the uneasy state of mind one finds in such cases. These patients were profoundly grateful on finding that the real diagnosis was tularemia after the course and outcome of that disease was explained to them.

The organism causing tularemia is bacterium tularense. It was discovered by McCoy and Chapin in 1911 while they were investigating a plague-like epidemic in ground squirrels in Tulare County, California. In 1910, Dr. Pearse of Brigham City, Utah, gave the first clinical description of tularense infection as it occurs in man in a paper entitled, "Insect Bites," which he read before the Utah State Medical Association. In 1913, Dr. Vail, a Cincinnati opthalmologist, saw a peculiar case of conjunctivitis with marked pre-auricular glandular involvement which he thought to be glanders. Drs. Wherry and Lamb, of Cincinnati, in working out the bacteriology of this case inoculated guinea pigs with infected material and after several animal passages isolated bacterium tularense. This was the first case of recognized bacterium tularense infection in man. In 1914, Dr. Sattler of Cincinnati saw a similar case of conjunctivitis in which Wherry and Lamb again isolated the same organism and definitely traced the source of infection to rabbits found in the Southern Indiana locality in which the patient lived. In 1916, Dr. Lamb reported another bacterium tularense eye infection occurring in a young colored girl who lived in Ohio near Cincinnati. This girl had handled rabbits a few days before becoming ill.[1]

In 1919, Dr. Edward Francis, of the U. S. P. H. S., was sent to Utah to study the deer-fly fever cases which were appearing so regularly in certain parts of that State. He arrived just after a rancher had acquired the infection from a deer-fly bite and immediately inoculated animals with the disease. The animals died within a few days and necropsy showed the same lesions found in ground squirrels by McCoy and Chapin in 1911. Dr. Francis had not seen anything like it before and made plans at once to take other infected animals back to Washington, D. C. Meanwhile he had become violently ill but did not realize until long afterwards that he also had contracted the disease. In spite of his illness he managed to make the trip stopping en route in Chicago to inoculate healthy animals. On his arrival in Washington he was too ill to go on with the work so Dr. McCoy continued the investigations and soon isolated bacterium tularense —the same organism he had discovered in the California ground squirrels. The investigators decided that the ground squirrel was the source of the infection and that it was transmitted to man by the deer fly.

In May, 1920, Dr. Francis returned to Utah but failed to find any infected ground squirrels. However, a dead jack rabbit which he examined showed typical lesions of the disease so the search next centered on the jack rabbits. About five per cent. of those killed were infected. Meanwhile new cases of deer-fly fever were appearing in the ranch families in the vicinity and animals inoculated with blood from these patients developed the tularense infection. Experiments with deer flies showed that these insects transmitted the disease from infected to healthy animals. It was after these experiments that Dr. Francis named the disease "Tularemia." American investigators discovered this disease and have worked out all facts of importance concerning it.

In 1921, the disease appeared in the markets at Washington, D. C. An investigation showed that it was contracted by market men who handled rabbits shipped in from Kentucky, Tennessee, Missouri and Kansas. Quite often mar-

ket men who dressed these rabbits were infected. They called the infection "rabbit fever."

In Montana cases of "tick fever" appeared in farmers and ranchers who pulled ticks from domestic animals or who were bitten by ticks. On account of its similarity to tularemia, tick fever was investigated and also proved to be a tularense infection. Parker and Spencer[2] have since shown that the tick not only harbors the infection, but is also able to transmit it to the next generation through its eggs, thus handing the disease along from generation to generation and acting as a permanent reservior of infection. Lice also are capable of transmitting the infection from animal to animal.

Bacterium tularense is a small pleomorphic organism found in bacillary, coccoidal, and bipolar forms. In nature it causes a fatal bacteriemia in ground squirrels, jack rabbits, rabbits, wild rats and wild mice. From these animals it may be transmitted to man by the bites of blood-sucking insects such as the horse-fly and tick. More often, especially in this part of the United States, man acquires the infection directly by contaminating his hands while dressing infected rabbits. Hunters, farmers, butchers, cooks and market men are thus most likely to be infected. The bacterium may enter the body directly through the skin or may be carried by the hands to the conjunctival sac or possibly to the mouth. In a few instances man has been infected by the bites of animals whose mouth parts were contaminated by flesh or rabbits dead of the disease.

Tularemia is probably endemic in all parts of the United States as it has now been reported from thirty-seven states and from the District of Columbia. It was also reported from Japan in 1925.

After having studied 418 case reports Dr. Francis[3] notes the following clinical types:

1. Ulcero-glandular; Starting with a papular primary lesion which later becomes an ulcer. Regional lymph glands are involved.

2. Oculo-glandular; Starting with a conjunctivitis as the primary lesion with regional lymph gland involvement.

3. Glandular; In which the lymph glands are enlarged but no primary lesion is found, the infection having penetrated the unbroken skin without having caused a local reaction.

4. Typhoidal; In which there is no primary lesion or lymph gland involvement.

The ulcero-glandular type is the one commonly seen and at present fully four-fifths of the cases reported belong to this group.

Tularemia is not contagious and one attack confers immunity. The incubation period ranges from two to nine days and averages about four days.

The constitutional symptoms are much the same in all the clinical types. The onset is much like that of influenza. It is sudden and is accompanied by chills or chilliness, general muscular pain, headache, backache, vomiting at times, and fever. The patient frequently has severe sweats. If he has had typhoid fever he is likely to insist that he is taking it again. If he has had influenza he feels sure that it is "flu" which he is taking. The fever usually reaches 103 or 104 at the onset. It persists for two or three days and then a remission occurs. This lasts about two days and is followed by a recurrence of the fever which again reaches 103 degrees, or more. Following this secondary rise there is a gradual return to normal which is reached in from two to four weeks. The febrile period is marked by great prostration and often by profuse sweats.

In the ulcero-glandular type an adenitis appears in about two days after the onset. On the third or fourth day of the disease a papule appears at the site of infection. This is usually on one of the hands. It may appear on previously intact skin or may be superimposed on a small scratch or abrasion. The papule soon becomes necrotic and this necrotic tissue sloughs out leaving a punched-out ulcer about three-eighths of an inch in diameter. This ulcer usually has a bright red base which is extremely sensitive. The edges of the ulcer are clean cut and drop off abruptly to the base. It heals slowly, requiring, three to six weeks for repair.

The involved glands are very tender and gradually enlarge until they become nearly as large as English walnuts. The skin over the glands is often red and the surrounding tissues are frequently edematous. The lymphatics leading from the site of infection to the enlarged glands some times show as red streaks. In about half of the cases the glands slowly return to normal size but this process always requires two

or three months and quite often much longer. In the remaining cases the glands go on to suppuration, the over-lying skin becoming very thin, the pus either breaking through spontaneously or being liberated by an incision. Suppuration usually occurs in from six weeks to three months. In one case which I saw in 1919 the involved glands did not suppurate until six months after the onset of the infection. In another reported case it did not occur for twenty-two months.

In thirty-three case reports studied by Francis subcutaneous nodules similar to those found in sporotrichosis were noted in the forearm and arm. These extended from the inital lesion to the enlarged axillary glands.

In the oculo-glandular cases the initial lesion is a conjunctivitis. The lids and surrounding tissues become edematous and one or more papules appear on the bulbar or palpebral conjunctiva. The lymph glands in front of the ear, under the jaw or along the side of the neck become enlarged. In some unusually severe cases the axillary glands are also involved. Permanent damage to the eye does not often occur. It is only recorded in one of twenty-three such cases studied by Francis. In this case there was a perforation of the cornea with protrusion of the iris resulting in blindness in the affected eye. In twelve per cent. of the cases reported bilateral infection of the eyes was noted.

The glandular type of the disease is not common. No initial lesion is found. A Japanese physician, Dr. O'Hara, reported seven cases of the glandular type from Japan in 1925. He described the disease and determined that the wild rabbit was the source of the infection. He at first thought he had discovered a new disease but subsequent agglutination tests demonstrated that he was dealing with tularemia.

The typhoidal type presents the same constitutional symptoms as the others, but shows no glandular involvement and no initial lesion. So far it has been found only in laboratory workers. Cases undoubtedly occur elsewhere but are overlooked. This type should be remembered in apparent cases of typhoid fever in which the Widal and undulant fever agglutination tests are negative. Drs. Francis, Chapin, Lake, Mayne and others have had this type of tularemia. It often appears in spite of the fact that the greatest precautions have been used to prevent infection while handling diseased animals. The mode of infection is unknown.

A macular or maculo-papular skin eruption may be seen occasionally in any type of the disease.

Convalescence is very slow. The patients are all very tired and exhausted during and after the attack. Any exertion wears them out. It is usually three months before one can work with any comfort and most patients state that they can still feel the after effects for six months or even a year.

Relapses are rare and sequellae are unimportant.

The prognosis is good. Only seventeen of 418 cases studied by Francis terminated in death. The oculo-glandular type appears to be the most dangerous and in this type the prognosis must be guarded. Deaths from this type have occurred on the sixth and eighth day of the disease. Most of the deaths reported in other types have occurred in the third week of the disease.

The diagnosis can be readily made if a careful history is taken and the characteristics of the infection are kept in mind. An attack of sudden illness in a patient who has been fly-bitten, tick-bitten or who has handled rabbits should make one suspect tularemia. If the patient also has conjunctivitis or a papule on the skin with regional lymph gland involvement the diagnosis is fairly well established. A positive agglutination test made with serum taken after the first week of the disease will clinch the diagnoses. However, a correct diagnoses can almost always be made before the agglutination test is carried out.

A bacteriemia occurs during the first week of the attack and during this time the agglutination test is negative, but becomes positive in the second week. Agglutinins increase up to the seventh week. From the fourth to seventh week agglutination may occur in serum dilutions as high as 1:2560. Cross-agglutinations may occur with abortus and melitensis. This does not occur in cases which agglutinate tularense in dilutions of less than 1 : 320. Serum from a patient who had the disease nineteen years ago still contains agglutinins. The diagnosis may also be made by animal inoculation with material from the initial lesion, body-tissues or blood from the patient. Bacterium tularense has not been found in in-

fected material taken directly from man and culture mediums cannot be inoculated with such material. Animal inoculation is first necessary.

The diseases with which tularemia is usually confused are influenza, typhoid fever, septic infection, sporotrichosis and anthrax. These can be ruled out by the case history and the agglutination test. Quite often the persistent adenitis is mistaken for tuberculous glands. A radiologist recently told me that two such cases had been referred to him for treatment during the last year. Much to his credit he recognized these cases and by making the correct diagnosis saved his patients needless worry and expense.

There is no specific treatment for tularemia. Such arsenicals as sodium cocodylate and the arsphenamines have received favorable mention, but have not been extensively tried. The patient should be confined to bed during the febrile period and treated symptomatically. Too early return to active labor should be avoided on account of the prolonged prostration. This is particularly true if there has been an antecedent myocardial degeneration or renal deficiency. In glandular suppuration incision should be postponed until the gland is completely broken down and the overlying skin is very thin. Otherwise a troublesome sinus sometimes forms which is very persistent and which may require excision before healing can occur. Where suppuration is complete healing usually takes place in one or two weeks after incision.

Prophylactic measures such as wearing rubber gloves while handling infected animals and thorough cooking of the flesh of such animals will prevent the disease. Education of the public on this subject falls largely within the domain of public health agencies. Market men who dress and sell rabbits should be instructed about the disease for their own protection and for the purpose of safeguarding their customers. We cannot make expert pathologists out of market men but it is often possible or them to detect the characteristic white spots on the livers and spleens of infected rabbits and to discard such animals.

The first cases of definitely recognized tularemia in Illinois were seen in November, 1926.[4] At that time three cases occurred in one family in Lawrence County. Two cases were seen in the same county in November, 1927, and two in 1925. I have seen sixteen cases in this one locality since 1914. Eight of these have been confirmed by agglutination tests. The others were typical cases. Nearly all of these cases occurred during the months of November, December and January—the open season for rabbit hunting.

Many cases have without doubt been missed through mistakes in diagnosis. This map, which Dr. V. M. Brian of the State Department of Health has prepared, shows forty-five (45) cases in his district. It also shows five cases in Chicago. The cases in Chicago were caused by imported rabbits. It is probable that at least three or four cases occur in each county per year.

CONCLUSIONS

1. Tularemia is a relatively common disease.

2. It is easily diagnosed and should not be so frequently mistaken for other diseases. The agglutination test offers a positive means of identifying the infection and the State Department of Public Health will make this test on request.

3. The disease will be seen in the larger cities as well as in the rural districts. Specialists must bear it in mind and be prepared to recognize it.

4. Knowledge concerning the characteristics of tularemia can be most quickly and effectively placed before the profession and the public by The Public Health Department.

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DISCUSSION

Dr. Alton S. Pope, Chicago: I would like to say a word about the five cases of tularemia we have had reported here in Chicago. The first one was in December, 1926. An industrial surgeon called it to my attention, and I might say that of the five cases reported in Chicago three have been reported by this same surgeon. Two of these were in butchers and the other three were in people who gave histories of dressing rabbits for their own use within a few days prior to onset. In three of the cases the primary diagnosis was septicemia, following wound infection.

All cases have been of the ulcero-glandular type and all were confirmed by agglutination in the United States Hygienic Laboratory.

While five cases is not a large number in a city of 3,000,000, we are satisfied that with one man seeing three out of the five cases, we are getting a great many more cases than are being recognized by the physicians. For that reason Dr. Kegel issued a warning in the *Bulletin of the Chicago Medical Society* last January. In these cases we traced the rabbits to which infection was due to Iowa, Missouri and Indiana. I understand that comparatively few rabbits from Illinois come into the Chicago market. All of these cases that occurred during the open season on rabbits are apparently due to imported rabbits.

I believe the time will come when we will have to take some means to protect the public either by requiring a period of refrigeration or some other means to guarantee the safety of rabbits we are selling in our markets here. As long as we continue to allow shipments of rabbits without restriction from the infected areas, into the cities, we are bound to get a certain amount of infection. As we have seen all through the eastern cities, a considerable number of cases of tularemia have been reported. For example, from Richmond, Baltimore, and Philadelphia and up into New York, and these were practically all due to imported rabbits.

I hope before many years we will see some satisfactory measure for assuring us that these rabbits, which are shipped in from the infected areas, are free from tularemia.

SPECIAL DIFFICULTIES IN ENDOSCOPY*

EDWIN McGINNIS, A.B., M.D.,

CHICAGO

The first difficulty is naturally in the diagnosis. One's first thought is to use the Roentgen ray to register the area. In the case of most foreign bodies this is helpful in determining character and location of the object. Metal objects register clearly, while in the case of the radio translucent bodies the opposite is true, that they do not register at all. When the body is radio translucent, the physician may be led to say that there is nothing abnormal present.

Take the case of a youngster who had a California grape caught in the upper end of his esophagus. X-ray film was of no avail, but fluoroscopic examination with barium milk showed an obstruction in the esophagus.

Peanuts, peas, kernels of corn, usually do not register on the plate, but in delayed cases they produce changes in the lung which can be recognized. Again a piece of roast beef which had been inspired and came to rest in a bronchus did not reveal itself on the x-ray film. This also later produced lung changes in the surrounding area which registered on the x-ray film.

I can never forget the case of a small boy who had swallowed a large overcoat button which had lodged in the upper part of the esophagus. He had some pain and difficulty in swallowing. I sent him into the hospital for x-ray examination and later operative removal of the button. The x-ray did not outline the button and the Roentgenologist made a report of nothing in the esophagus. I later removed the button.

Many cases of bristles in the larynx, trachea and esophagus, in which the x-ray did not register the objects, which have been seen directly at the end of the tube and removed.

Small thin slivers of chicken bones or pigeon ribs are difficult to determine as to presence and location in the esophagus and air passages. I have had quite a series of cases with such bones in the esophagus. This can be explained by the small amount of bony deposit. In this type of case we usually observe the patients fluoroscopically while in the act of swallowing barium milk, and in nearly all we note a splitting of the stream of milk as it passes by the lodged object. This has been helpful in a large series of cases. If Lipiodol is injected into the trachea, such objects may be outlined in the air passages, or may show closure of some part of the bronchial tree. Mayerson was helped in the diagnosis of a bronchial tumor by this means.

Some of the difficulties are illustrated by the following case:

Woman about fifty years old, perfectly well, while visiting her daughter ate fricasseed chicken at a dinner party. During the meal she had a sharp, severe pain ensue, and this persisted. She consulted a physician, who administered first aid, and passed a bougie. This passed over the painful area, but did not relieve the pain. She came back home to Chicago, and in a few days consulted her family physician, who had some x-rays made. By this time her neck was markedly swollen, and swallowing was with difficulty. X-ray plates did not reveal any bone. She came to see me and we fluoroscoped her, and could not see anything in the esophagus; but when she swallowed barium milk there was a splitting of the stream, and films taken a few minutes later revealed the location of a thin

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piece of chicken scapula in the esophagus at about the suprasternal notch.

There are also difficulties due to the necessary variety of instrumentation for the removal of foreign bodies. This can be illustrated by the two cases reported by Dr. George Boot, one that of a girl with the glass bead in the bronchus, in which he had a special instrument made for removal. Dr. Patterson of Pittsburgh has had a similar experience. The other case of Boot's was the one with the open safety pin in the bronchus, which he removed with the cork-screw formed wire. I have had a couple of cases with ball bearings in the bronchi, and could not remove these until I had a special forceps made. The pioneers in this field, Ingals and Jackson, had many similar experiences.

Still another difficulty comes from the location and form of objects. Jackson has pointed out that the esophagus does not stand much insult, and most of us can substantiate this. Also children do not stand a tube in the esophagus because it shuts off the respiration by pressure on larynx and trachea. I am very watchful of children's respirations when I have a tube in the esophagus.

I had a case of a small child who had swallowed a leaden battleship with smoke-stacks and turrets and even guns, all sorts of sharp projections to catch in the esophageal wall. This had been present long enough to become lodged just above the cardiac end. It was not difficult to see, but it could not be budged either up or down. We persisted in our efforts in removal for about twenty minutes, when the child suddenly became cyanosed and we could not resuscitate the youngster. Young children do not stand asphyxiation as well as older persons.

Another case of screw in the bronchus, head up, and the head wedged tightly into the bronches, I had to have a special grasping forceps to dislodge and hold this in removal.

Thus each case that presents itself may offer unexpected obstacles to easy removal in relief of the patient, whether of difficult diagnosis, nature of instrument required or the problem of removal without harm to the tissues, or asphyxiation of the patient. The endoscopist could well wish that the case might reach him without an undue lapse of time—that is, before the inevitable difficulties have been increased by changes in the lung and consequent liability to pneumonia, or other similar change.

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DISCUSSION

Dr. H. R. Watkins, Bloomington, Ill.: I am sorry I did not have a copy of this excellent paper. In these radio-lucent foreign bodies we have found that a No. 00 bismuth capsule given by mouth will sometimes hesitate at the point of obstruction. We have our technician blue pencil the skin under fluoroscopy for location. In foreign bodies in the bronchus the work of Clerf and Iglauer on iodized oil has been valuable in questionable cases of foreign body location. Where complete history has been taken, x-ray made and physical examination completed, you are justified in doing an exploratory endoscopy. We had one patient about 60 years of age that had a stricture for fifty-five years that had never caused obstruction. Another man of 45 had taken lye as a baby. He said that his folks had told him about this and he had remembered it. That was the cause of his obstruction. Both cases responded to dilation.

Dr. S. Salinger, Chicago: I can corroborate Dr. McGinnis' statements. I had a case in which a child inhaled a toy reindeer and it was lodged in the upper end of the trachea just below the glottis, its legs imbedded in the walls of the trachea. We could not draw it through without tearing the cords, and the laryngoscope was not long enough to reach. I solved the problem by taking a larger laryngoscope, slipping it in past the cords and turning it sideways prying the cords apart, which afforded sufficient space to effect the removal of the foreign body. These small objects given out as prizes in packages of confectionery are extremely difficult to handle.

SMALL CITY HEALTH PROBLEMS*

W. F. Burres, M. D.
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By the small cities I refer to cities of 20,000 or less, even down to the large village which does not yet enjoy the distinction of being called a city. It is a regrettable truth that many of these cities were organized at a time when public health was not made a study and in fact when sickness was regarded as a visitation of providence rather than a result of conditions which could be avoided and controlled.

Location of such cities was either by accident or in consideration of commercial affairs and

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often due to ease of access with little or no regard to elevation, subsoil or drainage and sewerage, a remote possibility scarcely thought of.

Industries located on condemned or made land become the nucleus of an unexpected city in a location where no city should exist. Then, after a city is once started on low, poorly drained land, cramped area, poor sewerage, damp basements, limited air space and play ground, unpleasant environment and other problems begin. What should have been the work of a city planning board now becomes the work of your board of health.

In most cities of this size there has been set aside a desirable site known as "God's Acre" where the dead rest in fairly decent surroundings while in the opposite there is another acre designated as the city dump for want of a better name. I need not attempt to describe it and it is safe to say tersely that it is another one of the problems for the board of health. This would naturally lead to the quest of garbage disposal. It is a city problem. The small city cannot easily afford the expense of an incinerating plant and must depend on burning or what is more frequent letting it alone to become the breeding place of flies, vermin and odors offensive if not injurious and always detrimental to value in the part of the city in which located. This problem should be and can be handled by the board of health by prompt burning of city refuse and complete burial of the remainder. This can and should be rigidly enforced. There is no place in city affairs where a little advice in proper direction and if need be a fine now and then will get such good results as in the proper disposal of the city refuse.

In the larger cities garbage collection is fairly well done, but in the smaller city and the village this matter is one of some importance. Usually no proper method of removal, often in open wagons or barrels, sometimes overloaded, spilling on the street; the small householder even using the alley or back yard for its deposit. All this problem is one for a local board to handle largely by education and by arousing a sense of local pride. One block or one ward properly cleaned up even by drastic means has a wholesome effect upon adjacent territory. What is true of this by appeal of civic pride may be said of the teamster's barn and a cow stable yet allowed in many localities. Constant watchfulness, with now and then a printed circular or pasted notice from the board and backed up by the mayor or chief of police as a last appeal will do much to bring about a clean up campaign. If there is no response, then I have found that about one good stiff fine and costs which gets publicity has the proper punch. A penalty sometimes beats preaching in these cases.

In most of the smaller cities we have the aldermanic form of government or the village board and still have the rather obsolete board of health appointed by the mayor and as a rule the compensation is such that few people can be found to accept the position. The duties are so ill defined and powers so limited that we seldom hear much of this board as to its appointment. The few duties they should perform are generally delegated to one of the police force as, for instance, the matter of quarantine, which usually consists of tacking up a red card to be taken down when the family becomes impatient, and the perfunctory fumigation and cleaning up afterward may, in most cases, just as well have been omitted. This board is seldom, if ever, consulted by the engineer, superintendent of works or by the board of local improvements, where drains or sewers are to be built. I have seen stretches of pavement built with drains to carry the water which may fall upon it, yet basements of all the adjacent property left with no regard for drainage and no thought of the health condition in future buildings in the locality, just so long as the estimate can be kept low enough to prevent objection.

Drainage of the city following this method has in many cases become a real menace to public health. Rapid and piecemeal building in various parts of the city is done, which in very few cities, is done without thought of real constructive work so far as adequate outlet is concerned. Here is where health authorities should step in and demand that the blocks of small drains and surface drains flowing—too often into an inadequate sewerage outlet should be remedied. Years of delay will only multiply the difficulty.

Isolation Hospitals. One of our problems is to care for the cases of contagion in a family where it is often necessary to quarantine the breadwinner with the family for a period of

days or weeks. Here the economic factor complicates the matter and to comply with state board requirements must mean a loss and often a hardship on the family which the local board must confront and often compromises by cutting the time of quarantine at a risk to the community. If we had proper isolation facilities this could be avoided. Perhaps a small building properly constructed to be used only when needed and closed when not in use to take the place of the old "Pest House" would be a good investment for any small city.

I have seen a city bond itself for seven or eight thousand dollars to pay for a street sweeper, buy a noisy siren for the fire department, pay fifty dollars a year dues to the municipal league, fifty dollars a year to the association of commerce, yet when a case of contagion appeared in the city, not a ward in the hospital for isolation. The board of health must scurry about and take care of it in some improvised way, always unsatisfactory to somebody, and in the end expensive to everybody. This is frequently shifted to county authorities, where we find the situation is not much improved, to say the least.

The city alley should be abandoned in all residential districts. That would solve one problem, especially the filthy privy. No addition to a city should be accepted until platted with lots large enough for a private drive to each and the alley entirely abandoned. I am glad to note that this is being done in many cities. You have seen a street sweeper at work on a pavement and the alley on either side full of rubbish. The city is praised for the sweeper and the board of health damned for the alley.

Rabies. Most small cities and villages have a good supply of dogs. In the first city in the State (I think) to pass a rabies ordinance the mayor at that time came in for more ridicule than real criticism. The joke was turned in this case very soon. Many people regarded the rabies vaccination of the dog rather as a joke than a law. Some obeyed it, many would not. One gentleman, however, who saved a dollar, had a dog bite two children as well as the owner. He paid out after the examination proved positive, $150.00 for treatment. This fact was given some publicity as a news item and had a very wholesome effect on other offenders. This publicity idea was followed up in this way. When a child was bitten we found, if possible, the name of the owner and address; then in the daily paper stated that the dog was or was not vaccinated against rabies. About one or two notices of this kind was sufficient. Dogs were vaccinated or removed by the police for want of an owner. I am not prepared to say how valuable rabies vaccination may be, but it is quite a relief to owner and parent of a victim to know that the danger is thought to be minimized. This idea of publicity can be carried out in many other cases. I think a signed request or suggestion along with health regulations is often better than a proclamation. A most valuable line of publicity is for the inspector to see that a shop or dairy is nicely cleaned up. The glowing write-up by the officer complimentary to the owner, even if exaggerated, is a piece of advertisement to be appreciated as it costs him nothing. His neighbor merchant hastens to get his name on the accredited list by exceeding the first and you have no damage suit for blacklisting any unclean shop.

There is a lack of financial support to the health department, which is more noticeable to the doctors, but is never mentioned or complained of because we are accustomed to being ignored.

Of course, your fire chief is voted his expenses to attend the State meeting of firemen. The municipal league meets once a year, the mayor or some alderman attend and their expenses are paid by the city council at the next meeting. Now if there is a health officer here or a chairman of the board of health who will receive his expenses from the city he represents while attending this meeting, I would like very much to meet him or, better still, have him stand up now.

Another embarrassing thing arises with the chairman of the board of health, if he be a physician, which is generally the case and that is this—free consultation is expected. The public presupposes that he is a paid official and should not pay him for services when his opinion is sought relative to disease requiring quarantine or other supervision of the health department. I have been called to a home to decide whether a case was one of contagion or not. Often called with the attending physician to confirm his diagnosis before quarantine, some-

times a difficult thing to do. Perhaps I have been too modest or sensitive, but I have seldom ever been paid for such services. I can readily understand where the family had resided in a large city where there is a paid health physician that they are acting in good faith and thought they were entitled to such free advice and service, but in the small city, where the physician is acting the part with so little pay it becomes embarrassing to render his service free, to say the least, and how can he be paid from a budget made up about like this:

Police Department	$15,000.00
Streets and Alleys	15,000.00
Lights	15,000.00
Fire and Water	16,000.00
Salaries	5,000.00
Bonds and Interest	20,000.00
Health	500.00

This proportion is no exaggeration in certain cities. The finance committee of your city council in making up this budget above referred to, reasons this way, that the United Charities, Salvation Army and hosts of other agencies, collect money for the poor and sick and that doctors are all good Samaritans and that the county will step in and help some; also that in many cities paying part of the school nurse's salary, who as such gives more free advice than her office contemplates so that the council feel that the public health will be pretty well cared for, but forget that the very doctor who is health officer is about the first fellow asked to head the list for the United Charities fund.

I have just touched upon a few of the many problems, not all of them. So far as utilities are concerned, we need notice perhaps but one, that is the water supply, a very important one in some localities. In the village where wells exist they call for most careful inspection. Milk inspection would furnish a paper by itself. The good grade of milk, generally furnished, is due very likely to the careful state inspection, but the handling of the milk in the store or shop of the dealer often requires watchfulness on the part of the health board. Handling of food is pretty well done in most cities. Dealers know the rules and regulations fairly well, and usually comply with them, but in case of neglect a hint by the board of health is usually sufficient.

Removal of pools of standing water cannot be too strongly urged. In many localities during the rainy season tin cans and other vessels form receptacles for water and a breeding place for mosquitoes and other insects and is too well understood by the layman himself to need much short of a suggestion of its removal by the board of health. Public health work on the part of the State Board and public health workers have the people fairly well educated as to this danger. The local board can do little except make urgent suggestions to the city authorities when swamps or pools are allowed to remain in close proximity to the city.

Now, you naturally say, all you have said is very true. We have all heard this many times before. What are you going to do about it? Let me say that I have but one thought to offer as a solution, that is this, that more medical men get into and become interested in your city government affairs. Just so long as the doctor in the city regards city politics, so-called, to be foreign to his interest and fears to take part in a city election because it will hurt his business, then you must expect very little concern from those elected without the doctor's aid. One or two medical men in the city council of the small city will have more influence than all the profession outside. I am not ready to say that the council, as a rule, are not willing to help in health matters, but in many cases they need to be shown that the health means wealth to any city. The health department should be one strong arm of the city government. If a city must have twenty or thirty full time men, as they do, to run the city affairs, then they should and can afford to have at least one full time health man paid equally well.

A doctor in the council would soon see the injustice of paying a fabulous price for every printed notice of an improvement, or every ordinance, or every ballot for both primary and general election, while the health board is largely a matter of charity. I want to say to you men who have never served in this capacity that you will be surprised if you ever do so to find how easy your taxes are paid out for any purpose except one where a medical fee is involved. Of course, you will see I am referring in this paper largely to the city with the aldermanic form of government. It is hard to get those forms of cities to change to the commission form. The people generally decide as they say to be represented. They dwell much on representative gov-

ernment, but it is amusing sometimes to see how little they care who represents them. Think of the council's expense to doll up the council chamber, the city jail, the police headquarters and the objection to buy a first aid kit for the latter. They say that the doctor should carry bandages and all things necessary in case he was called to the station to take care of a drunk in an accident.

Perhaps all I have said is superfluous, but let me say in conclusion, that you will never improve this condition of city health affairs by patient silence. If you expect proper recognition, you must not beg for it, but demand it, then, if not heard, be in a position to command it, not beg.

DISCUSSION

Dr. Arlington Ailes, LaSalle, Illinois: I have had no opportunity to review Dr. Burres' paper, so being a health officer of a small city, I have thought of a few problems of my own. I qualify by being a health officer of a city of 15,000, one of 10,000 and one of 5,000.

Since listening to Dr. Burres' paper I note that he considers his problems from three angles—that of budget, sanitation and quarantine. I might speak briefly about these. Of course, personally, I have no great budget problem because our health department is endowed, and in that way it is quite unique. The matter of obtaining the required budget depends entirely upon public opinion; and to get this we need the favorable opinion of the doctors as well as all other groups and the citizens at large.

Every city has the garbage and refuse problem. Coming into Chicago by train I see that the Chicago department of health has theirs. However, Dr. Rankin, who used to be state health officer of North Carolina, says that this type of work should not occupy more than two per cent. of a health officer's time. It is not now a very big health problem, since we know it does not originate disease, except remotely and in small degree. Civic pride and other factors now stimulate our people to clean up and get rid of garbage. In fact its removal should be a function of some other department of the city government and not the health department.

The matter of quarantine is a vital problem, but it again affects the large city as well as the small one. I, myself, am a believer in modified quarantine intelligently applied. To isolate the case is the paramount factor in restrictive measures, and any procedure that tends to prevent finding the case tends to prevent effective quarantine. What we need is effective machinery to find the case, such as an active whole time medical health officer, sufficient nurses to visit the schools and the cooperation of the teachers in reporting absentees. Then with less irksome restrictions the case is much more easily gotten on record and under quarantine, because the doctor is called more frequently and there is less objection to him reporting the case. For over a year, in our community, we have had a mild type of scarlet fever, which we have been unable to eradicate. But I feel with this modified type of quarantine we have been able to report a great number of cases that would otherwise never be known. Paradoxically though we are charged with a big epidemic and by many with inefficiency. However, we have had no deaths. I believe in the quarantine, since if it does not stop the disease it greatly slows its progress, and tends to prevent the increase in severity and possibly deaths, which tend to occur at the peak of a rapidly spreading epidemic. I believe this is all I care to say about Dr. Burres' paper.

Now I wish to speak of some other problems. One is that, where a small city or community gets an active health department they often attempt to carry out too large a health program. They are tempted to do what the larger community does. They want to rate favorably on the score card adopted by the American Public Health Association, and thus attempt more than they can efficiently carry out.

The health officer of the smaller city often needs to be his own executive, quarantine officer, sanitary officer, laboratory technician, supervisor of nurses, etc. While in the large city the health officer, if he is a good executive, will put at the head of these bureaus a trained man. And in these bureaus he may have divisions headed by expert men who receive salaries often much larger than the salary of the health officer of the small city. The large city has the personnel then to properly operate heart clinics, prenatal clinics, mental hygiene clinics and to do much other work that we in the smaller places are foolish to attempt. We have made this mistake, I believe, and have tried too much. This year we are planning to do less. Last year we examined over 3,000 school children and found a lot of defects, but due to our lack of concentration of effort, comparatively few defects were removed. We want to do at least this job better this year, and as a starter our dentists have cooperated in the establishment of a dental clinic. We now need the cooperation of our physicians in the removal of a lot of bad tonsils.

The physicians will cooperate, if a fair and sensible plan is proposed. Our physicians have already endorsed our diagnostic chest clinic and our venereal disease clinic and I believe they can be depended upon to do more. I am enthused with what I have heard here today about cooperation with physicians. You just simply can't get anywhere unless you cooperate, but the physicians should come part way and the health department should meet them fairly. However, if the physicians won't come at all, I think the health departments should stay about where they are, because little progress can be made without them.

This leads me up to the second problem that I

had in mind, that of preventive medicine. In this field I think both the physicians and health departments have a vital right. Sanitation has long been the undisputed prerogative of the health department and curative medicine that of the physician. Preventive medicine is where we dovetail in our rights, and where the line of friction occurs. Purely educational immunization campaigns on the part of the health department, in my experience, do little good. A few people become immunized but the net result is to excite opposition on the part of the anti-element, and also on the part of many that it is a scheme to make money for the doctor. As a result there is not sufficient immunization to prevent an epidemic. Surely with scientific knowledge enough to prevent epidemics, scientific men are going to be held responsible by the public for the occurrence of epidemics. Therefore health departments and physicians must get together and agree on some practical plan that will accomplish results in this field, if we are to retain the respect and confidence of the public.

Take for instance diphtheria, many cities in New York state have practically eradicated it, through the cooperation of the medical society, boards of health and the school authorities. We have had no diphtheria in our community for two years, but it will come to us just as sure as can be. We have done all we can in an educational way, by the distribution of literature and talks, but there is little immunization done. When the epidemic comes we can not use toxin-antitoxin (and I believe this remedy is no longer an innovation), but we will have to get mighty busy to prevent some deaths. The health department feels its responsibility keenly in these matters, and I believe the physicians should also. It seems like we should get together and this is the next step to be attempted by our health department.

Two years ago we had smallpox in the rural section close to our cities. The medical society met with the health department to discuss the situation. As a result they agreed to reduce their fee and authorized the health department to vaccinate all persons free who applied for such service Five thousand people became vaccinated voluntarily as a result of this and there was no epidemic. The medical profession acted nobly. Seemingly the public did not vaccinate the preschool children during our campaign and we now find our first and second grades almost wholly unprotected. Will we now have to wait for another threatened epidemic to do more of this work? If we can cooperate then, why not before and work out some suitable plan whereby the health departments can do some of this work for suitable classes without such severe restrictions that the work is nullified. The psychology of this plan is, that there is no coercive campaign. Those that are poor or without pride will select the health department; others will see by demonstration and observation that it is really a simple thing and harmless, and will select their physician. I think this is the only practical plan, and will result in the physicians and the health department doing more of this work, the public becoming immunized and retaining their confidence in scientific medicine. Our department is not going to do this, however, unless the physicians agree, as we recognize we must have them with us.

Now the third thing I had in mind is the minor difficulties, but which in reality are sometimes major in their accumulation. I refer to "What the doctor said" and "What the nurse said," etc. There are apt to be many little misunderstandings that amount to nothing when explained. For instance, a doctor complained that he had left strict orders for a child to stay in bed, but when he visited the case the patient was up, and the mother offered the excuse that the nurse said the patient could be up, which the nurse denied. Another case was where a doctor had ordered a feeding formula for a child and the mother did not prepare it properly. The child did not do well and the mother consulted the nurse, who showed her how to prepare the formula. The result was all that could be expected and the doctor someway became informed that the nurse had prescribed a formula. The error, of course, here was that the nurse should have promptly informed the doctor of her action, but it is difficult for the nurses to always inform the doctor of every little thing they do for them. Another instance I had recently was where a nurse had told a mother that she didn't need to call a doctor for a case of chickenpox. Here is a troublesome proposition. I consulted several physicians about it and the most of them expressed the opinion that they didn't want any nurse to ask that they be called for a mild case of chickenpox. One doctor said he would feel like a fool to be called to such a case, give little advice, no medicine and have to charge three dollars for it.

Nurses do have a hard time being discreet, diplomatic, etc., but we have on record dozens of cases where our nurses recommend that doctors be called, and there may occur one indiscreet remark like the above to dozens of these recommendations. Personal talks with the physicians help to straighten out specific cases like these. Some doctors need to understand more clearly public health work. The other day a doctor asked me what our tuberculosis nurses did. He complained that they went to a case he knew about and that they didn't bathe the patient, change the bed in any way or attempt to make the patient comfortable. I told him that our nurses were public health nurses and not bedside nurses, that bedside nursing was otherwise provided for. Our nurses are to educate, to try to get the case to the sanatorium and away from the family, to show him how to care for his sputum, to get fresh air, to keep the children away to prevent infection, to look after the nutrition of the children in order to build up resistance, to prevent new cases. The doctor saw the value of this type of work and thought better of the program.

I am enthused about this meeting, especially Dr. Needham's paper If you get the doctors together lay out your problems, call a spade a spade they will say "go ahead," if you have a worthy proposition. Physicians are public health minded, if they understand the need for an action.

In summing up my discussion and closing, I will say that we need to know our limitations, solve these problems of preventive medicine and understand each other.

IVORY IMPLANT IN ATROPHIC RHINITIS*

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Treatment of a pathological condition is apt to be unsatisfactory if its specific etiology is unknown and often even the relief of symptoms in such a case is not accomplished. Indeed, even in the presence of known etiology, treatment is too often merely palliative.

The condition known as atrophic rhinitis presents such a situation, description of the etiological factors of which are manifold, the real causative agents, however, remaining unknown, except in those cases resulting from lues and responding to antiluetic treatment. Perez believed that he had found a specific organism for the disease and developed a vaccine which Hofer subsequently modified. The clinical data in connection with the use of this vaccine, however, has not been sufficient to justify its claim, although it still continues to be used abroad. In the light of these facts we cannot truthfully say that cure has been accomplished in atrophic rhinitis and that the best we can do, in our present state of knowledge, is to afford relief.

Persons suffering from atrophic rhinitis associated with ozena, have three chief complaints, viz: foul odor, dry throat, and crusting. The usual findings, on examination, are atrophy of the soft tissues of the nasal interior associated with the resulting increase in space of the nasal cavities. Experience proves that the reduction of this space to its more normal dimensions has some beneficial effect on the process of crusting, which it seems to abate in varying degree, in some cases actually affording a control, while the ozena decreases in intensity or disappears altogether, and the pharyngeal symptoms become greatly lessened.

Obviously, there is no known medical procedure that will effect this necessary reduction in space. Clearly, some form of surgical interference is indicated. Of the various surgical procedures described in the literature, two are worthy of note, viz: the so-called Holley-Lautenschlager method which consists of displacing the lateral nasal wall toward the septum, and the introduction of various substances under the mucous membrane of the septum and the nasal floor. The former involves a technique that presents many difficulties, and objections, not the least of which is its extreme radical character. Indeed, the results of such an operation, when successfully executed, do not show any virtues above those obtained by the simpler method of transplantation. It is in this connection that the following has been noted:

Various substances have been employed in submucus transplantation, such as paraffin, autogenous and heterogenous tissues, and ivory. Although paraffin still continues to be a favorite method used by those abroad, in this country it has fallen into disuse because of the well-known danger of occurrence of paraffinoma. Autogenous transplants such as bone, cartilage, and soft tissue of mesoblastic origin are still used quite universally, but this method also offers several objections, the most salient of which are: first, the necessity for operating fields distant from the nose, with its attendant added discomfort to the patient and increased surgical risk, especially in the case of costal cartilage excision; second, the difficulty presented by the necessity to shape the transplant at the time of operation, with its great danger of contamination; third, the fact that these transplants are known to become absorbed altogether thus obviating the desired end, or to slough out with as great a frequency as any other transplant in which event they can rarely be saved. The method of heterogenous transplantation offers the same objections and presents the same obstacles plus the added difficulty of procuring the tissue from another person. Most of the foregoing objections do not hold in the case of ivory which thus presents itself as a very satisfactory transplantation medium. To enumerate the points in favor of ivory in justification of its superiority to that of other media for trans-

*Read before the Section on Eye, Ear, Nose and Throat, Seventy-eighth Annual Meeting of the Illinois State Medical Society, Chicago, May 9, 1928.

plantation: first, a constant supply may be kept on hand being readily accessible for use at any time; second, it may be prepared at any time prior to operation; third, it is subject to the most drastic method of sterilization, viz: the autoclave; fourth, although strictly speaking an inanimate substance, it is really an organic biologic material and though subject to some degree of absorption is well tolerated.

The ivory is shaped by a grind-stone run by a small motor, being ground out into spindle-shaped plates varying from one to three centimeters in length, one quarter to one centimeter in width, and one-eighth to one-quarter centimeter in thickness. Pieces of this size are used, being small enough to be tolerated by the mucus membrane which will not tolerate the ivory if the ivory subjects it to tension. Multiple perforations are made in the spindle by a dental burr. These perforations serve two purposes, 1. to lighten the piece, and 2. to facilitate anchorage by allowing granulation tissue to grow through them. The transplants are thoroughly sterilized by boiling before being introduced into the nose. If the nasal space is to be diminished by building out the septal wall, the usual technique of the submucous resection is performed up through the point of mucoperichondrial separation. The transplants are then introduced between the mucoperichondrium and the cartilage, two or three pieces being employed rather than one large piece, the latter being not so well tolerated. An attempt is made to give each transplant an individual pocket—the size of which is just large enough to accommodate the transplant without causing any tension of the mucous membrane. No stitches are taken, a light pack being all that is necessary to keep the pockets closed. If the nasal space is to be diminished by raising the floor of the nose or by building out the inferior turbinal bodies the same operative procedure holds, with the exception of the site of incision. It is perhaps wiser to operate on only one side of the nose at a sitting, operation on the other side being postponed until the first field is thoroughly healed, which varies from two to six weeks. This will help to prevent the occurrence of septal perforation which seems to be associated with the unavoidable trophic disturbance in the cartilage. Post operative treatment consists merely in keeping the nasal cavities free from discharge and the mucous membrane moist by any of the accepted methods. For stimulation of the mucous membrane we employ scarlet red emulsion, and glucose-glycerine as an adjunct in cleansing.

We have found this procedure simple to perform and the results satisfactory, although palliative. The crusting often ceases altogether, ozena disappears, and the pharyngeal mucosa becomes moist. It is essential, however, that the patient carry out daily routine measures in connection with nasal hygiene, and report at intervals of two to three months for checking up. In the event that the ivory implant sloughs it is easily reinserted after healing has taken place.

CONCLUSIONS

1. Until the specific etiology of atrophic rhinitis becomes known, treatment of this condition can only be palliative.

2. Any procedure that reduces the intranasal space will relieve the symptoms of crusting, ozena, and dryness of the throat.

3. Ivory is an ideal medium for the accomplishment of this purpose.

104 South Michigan Blvd.

DISCUSSION

Dr. Harry Pollock, Chicago: This paper is very interesting to me because it has been about five years since I first used the ivory implants in this condition and I expected to hear something new from Dr. Bernheimer and was surprised that he failed to mention anything new. It is true the etiology is unknown and the treatment, so far as I have been able to discover so far has been of no value, either when there is ozena or whether it is absent. You give them daily treatments, keep the crusts washed out of the nose, so they will be more comfortable, but they will still complain of secondary pharyngitis and laryngitis which most of the secondary cases have. All the good points that the author mentioned I can verify. I want to take one exception. He says that is a palliative measure. I disagree. I have shown cases before various societies and clinics that have been cured, relieved of all their symptoms for a period of as long as five years. They do not use any daily routine treatment, and the nose is in as good shape as anyone's can be. One thing is, not to use any local treatment after operation. This is not 100 per cent. cure, and in the earlier cases that I did, I met with a great many failures. There are several reasons to account for it. The extra large plugs I used—some as large as my thumb. I did not even perforate these inlays, but lately I have been perforating them, using a larger number but smaller size. You

can place them in position better than one large implant. Several have sloughed out like any other implant. They will become infected at times. I leave them in as long as they will stay, sometimes six months, then take them out and in the meantime a large amount of connective tissue has formed. You will find the septum bulging out as large as when the transplant was in place. My results have been very satisfactory and very gratifying to the unfortunate patients.

Dr. Bernheimer (closing discussion): In answer to Dr. Pollock, I wish to say that this paper was not written with the idea of outlining a new technique for ivory implantation, but simply as a clinical report on the results obtained by this type treatment of atrophic rhinitis, and to outline a modified method by which the author obtained the best results. Furthermore, I wish to reiterate that this method is palliative and not curative, which conclusion has been reached through an experience of more than five years.

TREATMENT OF NON-MALIGNANT SKIN DISEASES*

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It seems almost a needless redundance to attempt a presentation or review of a subject which is ably presented in standard text-books and has a voluminous literature of its own. Thus it becomes necessary to touch only a few high spots and give a general classification of those non-malignant diseases of skin after all possible malignancies have been subtracted by careful diagnosis. This means that those practicing according to the subject matter should not only be versed in proper and adequate radiation technique, but should also have more than a general knowledge of dermatology.

Roughly, the skin from within outward rests upon a subcutaneous connective tissue overlying the deeper structures; external to this is the corium or true skin, and lastly, an outermost coat, the epidermis or cuticle. This integument contains coil glands, sebaceous glands, hairs, nails, blood and lymph—vessels, muscles, pigment and nerves, all of which are subject to departures from normal and which vary in structure according to the physiology. In the human skin the cells of the germinal layer, hair papillae, the sebaceous and sweat glands, the endothelial cells of blood vessels and fixed connective tissue are radiosensitive while the non-neucleated elements, as the hair and elastic and collagenous connective tissue are only slightly susceptible. Histologic tissue changes consist essentially in neuclear swelling and hyaline degeneration with early and persistent inflammation, reaction seen mainly in the papillary layer and consisting of perivascular thickening and edema. In passing, it can be stated that direct bactericidal action on bacteria in tissue by irradiation cannot be obtained without serious damage to the tissues.

The non-malignant skin diseases subtracted from the general accepted or total accepted leaves those groups which are not due to definite cell change or degenerations: might subtract again the acute exanthemas. For the purpose of a working diagnosis, and not in an effort to be theoretical, this remainder in our work has been classified as those due to changes in; 1. skin glands; 2. the inflammations; 3. parasitic and infections which make up the great bulk of those we are called on to help treat, as they include nearly all the erythemas and eczemas; 4. the atrophiae; 5. the hypertrophies; 6. the purpuras and 7. the neo-plasms or new growths. (These last are divided into groups comprising those of the pigment, the epidermis and papillary layers and of the connective tissue.) 8. Synovial lesions and lastly 9. the neuroses.

The effect of radiation upon normal and pathological tissues of the human body is fairly well known. This effect is dependent largely upon the amount of radiation absorbed, and the biological activity of the cells radiated. It is also influenced to some extent by the character of the surrounding tissues and the condition of the organism as a whole. The tissue to be irradiated is of as much importance as the rays. This implies selective absorption and that the more rays absorbed, the more the tissue is affected. Highly differentiated structures are more sensitive than connective tissue, and pathological embryonic structures than fixed adult ones. The foregoing statements are made in general and simply as reminders: to open up the study of biological effects in detail would carry us far from the subject. Investigators of London Radium Institute believe that living cells do not react toward radiation in a peculiar manner, but that like all living matter in general they react toward nearly

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all adverse environments. Failures in radiation in malignancy are due to escape of a minority of highly differentiated cells requiring large doses for definite change with a possible injury to the surrounding tissues.

If I may be permitted, I wish here to present a preliminary report or communication on a study which I am finding of some assistance as a general guide or insight into the pathology of skin lesions, rather than an aid to clinical nomenclature.

Anyone experienced in some of the properties of ultraviolet radiation is probably familiar with these facts:

1. Many living tissues show curious degrees of fluorescence under properly filtered ultraviolet. For example, the keratin tissues assume a pearly white and occasionally a bluish fluorescence. This same fluorescence is shared by the vitreous humor of the eye. Gray hair shines; natural blonde hair shows a multitude of colors, while artificial blonde is monotonous; black hair inhibits fluorescence. Pigmented warts do not fluoresce, but when keratin predominates they become a vivid white after fluorescence. Pigmented or depigmented areas are readily differentiated and patches of vitiligo which are so faint as to be imperceptible, become visible. Hair dyes, arsenicals—so-called hair tonics, salves, etc. can be distinguished when not visible by ordinary light.

2. Certain exanthemas develop changes in the skin unsensed by the naked eye; but if such skin is exposed to ultraviolet radiation, properly filtered, and photographed, a finished photograph reveals the characteristic outline of the lesions which will subsequently develop and become visible to the naked eye. In this fashion, the skin transformations can be anticipated by several days through ultraviolet illumination and photography.

3. In the method of ultraviolet filtration, a substance which effectively excludes visible light is satisfactory for the purpose of revealing the above phenomenon. A suitable method consists in interposing a special glass. A more effective filter is that devised by the Robt. W. Wood and designated as the Woods filter. It is said to consist of iron and lead-free glass heavily pigmented in the pot with a high percentage of nickel oxide.

From these facts, it seems clear that cell modification can in some instances be detected through the use of ultraviolet radiation. In general, the modifications are those in which the trophic control of the skin has been lost through accident or disease. For example, it has been claimed that in spinal injury, localized, the metameric segment of the skin which corresponds to the nerve distribution of the injured segment suffers changes which become obvious through usual diagnostic measures, but in anticipation of their visibility, the ultraviolet photography discloses the segment with marked characteristics so as to be of considerable diagnostic value.

This mechanism suggests that areas of skin which had been exposed to energies capable of effecting some measure of destruction, as for example, x-rays, gamma rays of radium, permits an important diagnostic agent to the Roentgenologist. In proportion as the skin has lost some of its vital functions, it manifests a commensurate degree of fluorescent response to ultraviolet radiation. When complete trophic control is lost, and the epidermis undergoes pronounced acanthosis which may lead to marked keratosis, the fluorescence is particularly marked. Areas of keratosis are especially bluish in their ultraviolet fluorescence.

The Roentgenologist may take the fluorescence produced by an obvious keratotic area as an index of severe damage to the skin; and he may take the complete lack of fluorescence as an index of the absence of damage. With these two points fixed, any appreciable degree of fluorescence immediately suggests a corresponding measure of skin affection.

Using such an arbitrary scale as a given point in further research, the following observations and tentative conclusions seem probable: 1. The skin which has received treatment by an agent such as x-ray or gamma rays, may be so modified as to fail to disclose any obvious symptoms to the naked eye. Such a skin is nevertheless at the danger zone and would be particularly prone to x-ray or radium damage if additional radiation were supplied. Such a skin exposed to ultraviolet radiation by the method above outlined would reveal a degree of fluorescence which serves as a clinically valuable criterion from which to judge whether or not further x-ray

or radium treatment can be applied without harm.

It is obvious that ultraviolet fluoroscopy can serve a helpful purpose to the careful Roentgenologist. An illustrative example will make clear this purpose. Imagine a skin lesion which has been refractory to the usual dermatologic unguents and the like. Such a lesion then receives x-ray treatment, perhaps by the dermatologist. The x-ray can fail in clearing a number of lesions but they leave their invisible drastic imprints on the area of skin which has been exposed to the rays. Such a case is subsequently referred to the Roentgenologist who may, but usually may not, be informed of the previous failure of the x-ray. An additional and properly intensive x-ray exposure is afforded with the ultimate result that characteristic necrotic changes are induced with symptoms and consequences too familiar to require repetition. In such instances, the method of ultraviolet fluoroscopy above proposed is exceptionally valuable. It furnished an apparently definite, simple and effective means of warning the Roentgenologist not to apply x-radiation or gamma rays of radium until the first skin changes have so dissipated themselves as to bring back a reasonably normal condition upon which x-ray may then be administered. In the second place, the lesions themselves, apparently, in a number of instances may fluoresce in so characteristic a manner as to disclose certain other forms of treatment, perhaps exclusive of x-ray, which the therapist can instantly institute to the benefit of the patient.

There are, of course, innumerable ramifications to the diagnostic and prognostic possibilities of ultraviolet fluoroscopy. Complete and adequately conducted research will unquestionably bring many of these possibilities to clinical fruition; already, it seems to me, ultraviolet fluoroscopy can make a valuable contribution in safeguarding the interest of the patient and skill of the therapist.

Aside from these intensive considerations a rich field of research upon which I hope in the future to make further report, grows out of the work of the Russian and German investigators.

I refer now to the work of Reiter and Gabor, German investigators who repeated and confirmed the work of the Russian Gurwitsch. ("Ultraviolette Strahlen und Zellteilung.")

These investigators discovered that during the processes of mitotic division of cells, the mechanism was characterized by the evolution of ultraviolet radiation. By means of suitable ultraviolet spectroscopy, they showed that wavelengths of ultraviolet generated during this process were in the region of 340 millimicrons (3400 Angstrom Units).

It is perfectly well-known that radiation will absorb wavelengths which fall upon it and which are of the same order of magnitude. A common experiment makes this clear. A flame of the Bunson burner can be made yellow by introducing common salt at its base. This is the characteristic yellow sodium line. If in the path of such a yellow flame, one places a second yellow flame, the proper wavelengths are absorbed by the second flame in great amounts; but if the second flame is devoid of yellow lines, the energy passes through the yellow with no obstruction. If now this common phenomenon is applied to ultraviolet fluoroscopy, this significant fact emerges. Filtered ultraviolet radiation has its peak in the region of 340 millimicrons. Such radiation falling upon live cells meets the radiations called mitogenic ultraviolet in cells, and is absorbed by those cells. There is, therefore, no reflection or fluorescence. Now, if similar radiation falls upon cells so impaired that no mitogenic ultraviolet is resident within them, the incident ultraviolet ray is instantly reflected with the characteristic fluorescence.

From these considerations, it appears that a deeper and more significant research suitable for intensive investigation is a measure of cellular vitality as recorded by ultraviolet fluoroscopy.

Especially valuable, it seems to me, should be the application of this principle to the study of malignant virulency.*

As to radiation treatment, I have nothing to add, but could quote extensively from my favorite MacKee whose presentations are certainly very fair toward roentgenologists and I quote wholly the paragraphs under "Radiologist and Dermatologist." He says:

Dermatologists have not been sufficiently progressive. Ten or twelve years ago nearly every dermatologist possessed an x-ray equipment, although few of them knew much about the subject of roentgenology. They failed to keep pace with a young, vigorous, progressing science and finally discovered

*Strahlen Therapie—1926.

that roentgenology had evolved into a highly specialized and complex subject. Furthermore, even the x-ray treatment of the diseases of their own specialty had been transferred to the pure roentgenologist, men who were x-ray experts but who had little if any knowledge of dermatology. Between the technical errors of the dermatologist and the diagnostic errors of the roentgenologist the evolution of superficial roentgenology suffered considerable retardation. Even today the subject is neglected by a large proportion of dermatologists of this country. There are very few medical colleges that give the student a reasonable conception of the advantages and limitations of dermatoroentgenology. Dermatologists have simply been too lethargic, too indifferent and too mercenary to become and to remain modernized in this rapidly changing and ever progressing field.

It is difficult to resist the temptation of reminding dermatologists that they are losing control of syphilology for the same reasons. If this retrogression continues dermatology will indeed become a minor specialty. It is time for dermatologists, especially the younger practitioners, to develop more energy and efficiency. Many young men enter the field of clinical dermatology because it offers a path of slight resistance and an easy although not always a lucrative field. Dermatology, if it includes histopathology, syphilology and radiology, is a difficult specialty to master and one that is worthy of great minds.

Every dermatologist should be well acquainted with the possibilities and limitations of roentgen therapy and radium therapy. He should recognize reactions and sequelae and understand the reason for them and how they may be avoided. He should understand the biological action of the radiations, and he should know which diseases respond readily to small doses and which require strong applications. Otherwise, how can he work in collaboration with the roentgenologist? Most roentgenologists know very little about dermatology and they are, as a rule, very grateful for help and advice. The ideal, however, is for the dermatologist to be his own radiologist.

The fundamentals of modern technic can be acquired in a short time but one must not stop here. Every person who prescribes x-rays or radium for use on the human organism should endeavor to learn all there is to know relative to these agents and the study will include history, physics, electricity, biology, technic, etc.

In addition to MacKee's technique we are beginning the use of the Grenz ray: This 2A unit technique is proving very satisfactory in the lesions limited largely to the epidermis.

The unit dose as given by Eller and Bucky is considered to be that which would produce a mild erythema on forearm in from 12 to 24 hours after exposure. Their summary is substantially as follows: A maximum of 2A is employed. A beam such as this has not been used until recently. The older roentgenologists thought they were using long waves, but were really using shorter ones than the Grenz ray.

Patients with various constitutional diseases are said to respond favorably to the Grenz ray.

Unfavorable sequelae such as atrophy and telangectasis have not occurred. Erythemas may be produced without depilation.

For general or basic use the Ready reference table for superficial Roentgen Therapy by Beets and Arens should be in the laboratory of every roentgenologist when acting in the role of the dermatologist, and on the desk of the dermatologist when posing as a roentgenologist. Our variation from theirs is that I use 16-inch distance instead of 15 as the mathematics are easier.

The reactions from x-ray treatment of nonmalignant skin diseases are fearful at times and can vary from erythemas of mildest degree to third degree and the trained roentgenologist should be able to guide the exposures to avoid these. When this millenium is reached insurance rates will come down.

MOST COMMON LESIONS PRESENTED TO OUR LABORATORY

Eczemas	54%
Dermatitis	12%
Psoriasis	.5%
Acne	11%
Cellulitis	.9%
Furunculosis	1.8%
Herpes	1.7%

Exact results not tabulated as the follow-up is not complete, but the increase in work referred for treatment for the last three years is about 400%.

DISEASES CLASSIFIED AS TO TREATMENT*

Group 1. X-Ray on Radium Sole Means of Cure:

Bromidorsis, localized.
Dermatitis papillaris capillitii.
Favus, of the scalp.
Hyperidrosis, localized.
Keloid.
Rhinoscleroma.
Tinea tonsurans.

Group 2. Irradiation Most Useful:

Granuloma fungoides (mycosis fungoides).
Hodgkin's disease of the skin.
Lymphogranulomatosis cutis.
Sarcoma, Kaposi type.
Sarcoma, giant cell.
Leukemia cutis.
Pruritus.

Group 3. Excellent Results in Some Instances:

Acanthosis nigricians.
Addison's disease.
Granulosis rubra nasi.
Keratosis follicularis.

Kraurosis vulvae.
Parapsoriasis, lichenoid type.

Group 4. Roentgen Therapy Specific; Other Means Successful:

Actinomycosis.
Angioma, cavernous.
Angioma, senile.
Angioma, strawberry mark.
Blastomycosis.
Carbunculus.
Callositas.
Granuloma annulare.
Lupoid sycosis.
Lupus miliaris disseminatus.
Scrofuloderma.
Sycosis vulgaris.
Synovial lesions of the skin.
Tinea barbae.

*From X-Ray and Radium in Treatment of Diseases of the Skin. By George M. MacKee, 2nd edition, 1927, page 405.

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DISCUSSION

Dr. Henry Chapin, Jacksonville: I hope Dr. Grote will follow out this line of investigation and report to us at a future meeting as to his findings both as to diagnostic and therapeutic value of this treatment.

I wonder if we really are not making a mistake in our treatment of our skin lesions because we all remember that our results in skin lesions were very satisfactory when we had to depend upon the old static machine, when our wave lengths were entirely different, the output of our machine was quite different and I remember hearing Dr. Grube say some time ago that he was getting better results in treating skin lesions with his old static than he was by the modern machine. Possibly that might be accounted for by having the longer wave lengths. Some have recently advocated the wave lengths not over ten kilovolts, even to seven or five kilovolts.

I wish to speak of just a few conditions which it has been my privilege to treat and the results have been very satisfactory. Probably as common a condition as we are called upon to treat, or possibly the radiologist is not called upon because of the fact that the laity and the physicians generally do not know that we can with radiation relieve such painful and distressing conditions as callosity. I have found even with very large callouses, some as large as a dollar, on the bottom of the feet, that were quite painful, the patients would come in and by giving one comparatively mild treatment, ask to return in five days, and by taking a curet you can usually scrape off some of the surface and the patient says that immediately there is some relief. Usually at the end of ten days another treatment is given and the patient is kept under observation. I have found that these callous conditions are entirely relieved and in the course of one to three weeks you can scrape off all that tissue and it leaves a perfectly soft, healthy skin.

The same is true of plantar warts. I have had some very distressing cases of plantar warts and they have responded equally well to radiation. Herpes zoster will respond quite readily to a combination of x-ray and ultra-violet. It has been my custom, as soon as I see the herpes zoster, to give x-ray treatment over the back in the region of the involved area and it is surprising with what rapidity we will get complete relief from pain—if not complete, there is certainly a very decided relief in from two to six hours.

Then I have always followed that up by giving the body treatment with the ultra-violet light and it seems that the recovery is much more rapid. We certainly do reduce the pain if not entirely relieve it.

I have had a few cases of pompholyx which responded. Of course that is self-limited but apparently in these cases under a mild treatment of radiation they were relieved.

Of course we all have cases of furunculosis and they respond uniformly well, I think, to mild treatments.

Ring worm is another condition that I have treated considerably. We had quite an epidemic of it in a state institution where I was consultant radiologist. I gave radiation treatment, usually two to three treatments would entirely relieve the condition. I do not give very intensive doses. I didn't even get a dermatitis, but I did get relief in those cases. In some cases I gave the skin dose but I think in none of them were more than five treatments given with complete relief.

In keratosis, which we know is a potential cancer, I use the radium preferably, make an application of radium, or I'd give an x-ray treatment and follow that with desiccation and I find they clear up very nicely, leaving no scar. Of course if I feel

that it has already undergone degeneration, then I'd give a heavier dose of radiation and treat it as though it were cancer. I believe we are justified in always treating a doubtful case as though it were malignant.

I have treated keloids both with radium and x-ray and I prefer the radium in treatment of keloids. It is slow, sometimes takes many weeks or even many months for the keloid to disappear but results have been very satisfactory.

As to acne, I think we all rather dread to see acne come. Results have been very good but I hesitate to give the intensive doses in acne that I think probably one should give to get a real prompt result. In my acne cases I prefer to treat with x-ray and ultra-violet, preferably the body exposures of the ultra-violet, and we find that they do clear up after a certain length of time and leave the skin in a very clear, smooth condition.

Of course skin conditions will respond to radiation of different sort. I believe when we are treating we should resort not alone to x-ray, radium desiccation coagulation or the infra-red; but all of them in more or less combine form will give us the best results.

I have had within the last few years approximately two hundred cases of carbuncle. A surgeon says, "Are you sure they are carbuncles?" He was very doubtful about one having the opportunity of treating that number of cases of carbuncle but many of these cases were treated at the state institution in Jacksonville and there were a very large number of cases. Recently there have not been so many, but in every case of carbuncle the results were satisfactory. The patient would be relieved of pain in from six to twenty-four hours and within probably forty-eight hours you'd find instead of several small areas discharging sinuses, that would be in one large mass and you'd get very quick drainage.

A small incision is necessary, of course, if the pus is confined but not a radical operation and no large incision. The one great beauty about the irradiation treatment of carbuncles is first you get your relief from pain very promptly, you are not subjecting your patient to the shock of an operation and the resulting scar is very, very slight.

Usually I give two treatments in treating carbuncles.

I wish to mention the quick relief from pain in another condition. Possibly it is not in place here, but recently I had a patient come who was suffering intensely with bursitis. He hadn't been able to sleep for two nights and two days. I suggested we give him an x-ray treatment, which I did, and that was along about two o'clock in the afternoon. The next day he reported to the office and said he had complete relief from pain by nine o'clock that night and he suffered no pain from that time on. Naturally I concluded that the x-ray was responsible for the relief of the pain in that bursitis because it followed so promptly and along about the course that is usually followed in relief of pain in treating carbuncles.

It has been suggested that possibly every case of pyogenic infection would be greatly benefited by irradiation. I believe we have a large field here of investigation and work, but I think we hardly yet realize the advantages or the possibilities of irradiation in the treatment of many of these conditions and especially many of the painful conditions.

I used in the carbuncles a hundred kilovolts, five milliamperes, filtration of four MM of aluminum, twelve inches distant, five to seven minutes.

Chairman Swanberg: That is about sixty per cent. of an erythema dose, isn't it?

Dr. Chapin: Yes. Sometimes I will repeat that on the third day following, but I believe I really get better results, quicker relief from pain on five minutes than I do when I give seven or eight minutes.

For the bursitis I used 120 kilovolts and the five MA, four MM aluminum, fourteen inch distance for seven minutes.

Dr. Williams, Danville: Failure to discuss any paper by Dr. Henry Grote would be overlooking a golden opportunity. Dr. Grote has given us some things that are absolutely new to me. His work in fluorescence is so new that I am startled with it and I want to spend some time talking with him later on it.

The statements by Dr. Grote and Dr. Chapin concerning the combination treatment by x-ray and ultra-violet, using a low voltage x-ray and the ultra-violet, would seem to indicate that our pathological condition is picking up something from the x-ray and something from the ultra-violet, neither one of which is sufficient in itself, and we begin to wonder if it is picking up the longer end of the x-ray, the shorter end of the ultra-violet, and coming into that field between the two which is being represented now in the so-called Grenz ray?

I have seen no work with the Grenz ray, I know nothing of it. There has been considerable publication on it.

It is claimed by some who have used it across the water that it is absolutely harmless, that it affects only the extreme outer layers of the skin and cannot product telangiectosis, while somebody else has shown it can do this. I don't believe that anything like the Grenz ray that is closely related to the x-ray can be absolutely harmless, but with proper control it can be very valuable.

The field where the dermatologist or radiologist and the surgeon are coming in contact, through carbuncle treatment, is becoming more and more acute, as there is room for discussion between x-ray treatment of carbuncle, the incision with the electric knife and surgical incision.

I have within the past few weeks succeeded in carrying one carbuncle through in spite of the great desire of a surgeon to operate and I was determined this case was going to go through absolutely without surgical interference if the patient's

condition warranted. At the time I saw it, the central part of the carbuncle was about four centimeters across, a very unpleasant looking affair. I gave, right into the crater of this, trying to avoid the skin around it, three skin units of x-ray. Within forty-eight hours the patient was free from pain and the surgeon again was determined to excise it and I said "No."

Within about five days the center of the carbuncle broke down, the man had no pain outside of the fact that his neck was stiff and he was uncomfortable, he went on to a complete recovery within about three weeks. I don't know what it would have done had he had surgical treatment.

I hope Dr. Grote will follow up his work on the fluorescent photography and the visible fluorescence of this work because it is extremely interesting.

Dr. G. E. Pfahler, Philadelphia: Mr. President, I will not take time to discuss this but I would like to ask for some information.

I know that I got in late for Dr. Grote's paper, but I would like to have him just summarize the technique of obtaining this fluroscence and photographing it so that I at least can go home and do likewise.

Second, I'd like to know whether this fluorescence enables him to distinguish between malignant disease and non-malignant disease, as I assumed he expected to do by the warty growths on that nose case that he demonstrated on the screen.

Third, I'd like to ask what is his method to obtain satisfactory results in the treatment of port wine stain. So far I have not learned of any method of treatment that is really satisfactory.

Fourth, I'd like to ask just what he means by synovial lesions of the skin.

Fifth, I'd like to ask Dr. Chapin of Jacksonville what is his dosage in the treatment of a carbuncle; also what is his dosage in the treatment of herpes zoster and whether he applies the ultra-violet rays over the same area to which he applies the x-rays.

I would like to caution every one to realize that they are using a double irritating agent when they are using the ultra-violet plus the x-ray. Of course, if you use half dose of each, you can get away with it, but don't attempt to use both as was suggested by Dr. Sampson. We carried out some very convincing experiments showing that you get a very damaging effect if you attempt to use both at the same time.

I would also like to ask these gentlemen and anyone present whether they have used the x-rays in the treatment of phlebitis, which is one of the inflammatory conditions. I know it has been used in nearly everything. I happen to have a very close surgical friend in whom I have recommended it but purely on theoretical grounds and not because I have had any experience. I'd like to know whether I can go back and tell him that it will do some good.

I would also like to ask Dr. Grote in what class of cases the Grenz rays are superior to the x-rays so that we have something specific. Also what apparatus he has found entirely satisfactory. The Grenz rays, as I understand them, if you will study the spectrum, are really very soft x-rays and, of course, Dr. Buckey even speaks of that, but it seems to me that when we are using the Grenz rays, we ought to realize that we are using a form of x-rays and can do damage, as Dr. Grote has already indicated. It cannot be used at random and forget about it.

Dr. Grote: Dr. Chapin's discussion on the treatment of carbuncle—I have begun to think that that is malignant so I didn't enter into that as classed under the non-malignant diseases of the skin.

Harmlessness of Grenz ray—I don't think there is anything that comes out of an x-ray tube that is harmless and part of one question of Dr. Pfahler, the Grenz ray is an x-ray, a very low, supposedly produced between five and ten k.v. giving us a 2A dose as a maximum.

The equipment I have used has been an old timer. As near as I can tell, I am getting about 6 k-v. out of it. It is a Tesla transformer, one that I discarded years ago. It found its way to the junk room and I dug it up after Eller & Buckey's work to see what I could do, and although this hasn't been calibrated exactly, as near as we could figure out mathematically, I am getting about six thousand volts and about 1.6 A out of it.

Now, it is still x-ray. I don't think there is any argument about that at all, Dr. Pfahler, as I understand it. But we probably have some other unknown rays along with that, it being of such a long wave length. Pusey, about 1904, reported a lot of successful skin work in a book he published at that time. That was undoubtedly due to these longer wave lengths than we have been accustomed to using.

The point that I want to bring out is the diagnosis as early as possible of skin lesions so that we can prevent the non-malignant overlapping into the malignant field and preventing that sort of a development. Then we will not have any use for coagulation, etc.

The technique of doing that? It is done by interposing a filter, these filters mentioned in the paper, which cut out the short of the violet. These overlap those produced in the tissues. We do not get a fluorescence as mentioned and we are apt to get a very damaged skin—the very damage Dr. Pfahler mentioned, that we can damage the skin with ultra-violet regardless of what anybody says. I am satisfied of that although I haven't the proof with me. I think there is no question of the possibility of proving that satisfactorily.

Our osteopathic and chiropractic friends are creating that damage. We have seen it twice in the eyes; as near as I can find out that is the only treatment they have had, the only physio-therapy treatment, and the eye and ear men have sent them to me.

Dr. Pfahler: I don't quite get the technique yet.

Dr. Grote: The skin of the area is exposed (demonstrating on blackboard). If we have a quartz light burner and we project that through

an opening and interpose a filter we will cut out practically all of the short ultra-violet rays. The long ones will fall on the skin and those will produce fluorescence. Sunlight will produce fluorescence in the normal skin.

Dr. Pfahler: Does the fluorescence come out after you turn it off?

Dr. Grote: After you turn it off, then it becomes visible photographically. While it is on there, of course, you won't see it. Turn it off, and over here we have the camera, and immediately—within about two minutes' time—a photograph is taken of our skin. Simply turn this so as to get a direct ray and get a straight photograph. The photographer who took the second film took it at this angle because I was so busy I couldn't get at it to have the slide ready.

Dr. Pfahler: No other light?

Dr. Grote: I used my dark room for it.

Dr. Pfahler: How long was your exposure?

Dr. Grote: Five minutes.

Dr. Kaplan, Chicago: How long an exposure from the ultra-violet?

Dr. Grote: A minute and a half.

Dr. Kaplan: What distance?

Dr. Grote: About twenty inches.

Dr. Pfahler: But you can also see this fluorescence with the naked eye—is that right?

Dr. Grote: I have seen it but I don't think it is seen often.

Dr. Pfahler: You depend upon the photograph?

Dr. Grote: We depend upon photography. The early part of the paper mentioned that—ultra-violet irradiation plus photography.

Dr. Trostler, Chicago: Is it a long exposure?

Dr. Grote: I made only two minutes on that breast case I showed you. That was purely a thing that came into my mind. I have used it twice since on so-called x-ray dermatitis and got practically the same thing.

Dr. Williams: Was that breast case photograph made in the dark?

Dr. Grote: No, it was a composite, one on top of the other.

Dr. Pfahler: Which one?

Dr. Grote: The breast. One was made in the dark; another exposure made in the light and the slide made from both.

Dr. Flinn, Decatur: The tissue that fluoresces, is that early pathology, a pre-pathological condition?

Dr. Grote: There is no question but what there is a difference in the degree of fluorescence between normal tissue and abnormal tissue. Pigment absorbs it and so we don't get it.

Dr. Flinn: Have they advanced enough to differentiate fluorescence yet?

Dr. Grote: I have read about thirty in the bibliography and none are as well satisfied as I am that we are on the track of something. I think we are on the track of early diagnosis in some skin lesions. A particular point about the myogenic changes in tissue and particularly in the neuro-dermatitis cases, herpes, shingles, etc.

Dr. Pfahler: How long do you make your ultra-violet exposure through that before you make your photograph?

Dr. Grote: I made it on the nose case about three minutes; on the breast case about a minute and a half.

Dr. Pfahler: Then the photograph five minutes.

Dr. Grote: You will get no injury from the violet ray at twenty inches because you are cutting out the short, irritable violet ray.

As to differential diagnosis, it is a question of clinical conception of the difference of the fluorescence on a keratotic area. For instance, you get none there and plenty here on the hand (pointing).

By synovial lesions I mean cysts—those that come underneath or over underlying connective cells. That is why I mention skin anatomy coming from within out.

As to port wine stain, I still think my best results came from CO_2 snow and lastly gamma rays. I don't like to use those on port wine stains because I think we get an effect too deep. I don't think it is right in principle. CO_2 snow is pretty safe if you don't try to overdo it and take plenty of time and work from either without inward or within outward, depending on size. If I have a very large one, I work from without inward. If I have a small one, I do my freezing first within the center wait a while until that recovers and keep on working outward. I don't believe in radiation for port wine stains.

MOVEMENTS OF THE ALIMENTARY TRACT IN EXPERIMENTAL ANIMALS*

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There is nothing essentially new in this film. It is our first attempt at motion picture photography of all the parts of the gut, and it is by no means the best that can be done. However, it does show, in addition to the normal movements, the excessive movement produced by vagus stimulation. We succeeded in producing an "hour-glass stomach" by vagus stimulation. In addition, we succeeded in producing spasm of the entire small intestine, also by vagus stimulation.

In the cat there is an unusual shortening of the length of the whole small bowel in defecation. It shortens to about one-third its normal length.

*Comments on a film shown before the Section on Medicine, Seventy-eighth Annual Meeting of the Illinois State Medical Society, Chicago, May 8, 1928.

The instance on the film is not the best one we saw. Dr. Luckhardt and I worked over a great many animals in order to get the experimental condition as good as possible and frequently in the trial experiments we had better results than we see on the film.

Our intention was to secure a film for teaching purposes that will impress itself indelibly on the mind of the medical student, such as one secures through years of observation with the fluoroscope. You do not get this by the balloon method, or by studying the x-ray plate.

While we are waiting for the screen I might make this remark: That when you see this hour-glass stomach developed, in this case it is due to hyperstimulation of the vagus. I have stimulated the peripheral vagus under same conditions in the dog many times and have never seen it before or since. So it is necessary to consider not only the vagus stimulation but some peculiar condition of the peripheral mechanism and I am very anxious not to leave the idea with you that every case or any one case of hour-glass stomach represents vagus stimulation or overstimulation (so-called "vagatonia").

The animals are all under moderately light sodium barbital anesthetic. That paralyzes the gut much less than ether. The abdomen is open, the abdominal wall kept to the side and the viscera covered as much as possible with warm Ringer's solution.

Film: These rapid movements you see here of course, are the effects of respiration (the diaphragm). We are unable at present to eliminate that. The pylorus, duodenum and the stomach. The stomach is filled with food. The normal movements start here at the antrum, going over and stopping at the pylorus. These are about the strength that you would find in normal digestion, through the fluoroscope. The duodenum is relatively resting. This also gives an idea of the massage of the stomach by the diaphragm in respiration.

Just prior to this, we made a powerful stimulation of the vagus, you notice the stomach goes into spasm, the entire stomach contracts and turns on itself and for a considerable time after the stimulation you see these violent spasms and peristaltic waves rapidly sweeping over the entire stomach. You notice as a result of this stimulation there was no motility in the duodenum.

Here is another spasm induced by vagus stimulation. More normal movements. Feeble movement. Duodenum relatively quiescent. Here you can see some segmentation in the duodenum. Segmentation movements now have disappeared.

Another spasm of the stomach on vagus stimulation with the duodenum showing a few feeble peristaltic waves but a tremendous spasm of the entire stomach. After a little while we see more normal peristalsis.

A rather pronounced spasm of the antrum. Here is a peristaltic wave starting at the fundus and sweeping rapidly over the entire stomach. Another stimulation of the vagus, a spasm, again, of the antrum. It is very difficult to show the extreme spasm that the pylorus goes into on vagus stimulation because the pylorus is away up under the liver and it is very hard to expose it so that the film will show it.

Gastrospasms and peristaltic waves going toward the cap. All this extreme motivity resulting from one brief stimulation of the vagus and now you can see the development of the hour-glass stomach. The fundus is relatively quiescent. See the spasm holding here at the transverse band. After a while it will stay permanently. A result of one brief stimulation of the peripheral vagus. Here is the peristalsis starting away over in the fundus. There is one. You can follow it right over. Very, very seldom do we see antiperistalsis develop in the stomach as a result of vagus stimulation. The duodenum is quiescent. These are the small intestines,—quiescent, filled with food. As a matter of fact, the condition of anesthesia on the opening up of the abdomen leads to greater paralysis of the small intestine than of the stomach.

You can, however, see some feeble peristalsis in the duodenum. You see here a spasm of the entire small intestine on stimulation of peripheral vagus. If you direct your attention here you can see peristaltic waves in the duodenum. The stomach is moving vigorously as a result of the stimulation.

These are loops of the ileum here. This is what we call hyperperistalsis, starting away over in the fundus, going vigorously over to the pylorus. If you appreciate that the camera is focused a little sideways, it is not looking right

down; consequently you get the stomach larger than it actually is.

Local stimulation causing a spasm that does not travel anywhere under these conditions. Again, local stimulation causing spasm that stays, does not travel in any direction.

Now we show the spasm of the small intestine on vagus stimulation. See how contracted and hard they become and they stand up rigid. There you see very good peristalsis in the duodenum. Peristalsis in the duodenum. Peristalsis very good here. Segmentation. There is a brief antiperistalsis of the duodenum and then the normal.

There is an antiperistalsis in the duodenum. Antiperistalsis is quite a normal phenomenon in the duodenum.

While we are changing the film, I will be glad to answer any question on what you have seen.

DISCUSSION

Dr. Rosalie M. Ladova: Why did you not show the normal peristalsis rather than the excited one?

Dr. Carlson: I showed both.

Have you ever opened a patient or an animal under general anesthesia?

Dr. Ladova: No.

Dr. Carlson: Well, I want to ask you how much normal motility you see in the stomach and intestines when you open the abdomen under anesthesia. That is the great difficulty in this sort of work,—the general anesthesia and trauma of opening, the unavoidable exposure to air, usually causes paralysis. But part of the film shows the normal movement as you see it under the fluoroscope.

You can see this type of exaggerated peristalsis in cases of pylorus spasm or pylorus stenosis, both in adults and infants. They are both pathological in a way but this is the kind of pathology that the Roentgenologist sees.

Dr. Spiesman, Chicago: What was used to stimulate the vagus?

Dr. Carlson: That was very simple. Section of the vagus and peripheral end was stimulated by a moderately strong current of electricity.

This film shows the movement of the alimentary tract of the dog, the cat and the rabbit. First is the rabbit. The cecum and the large bowel. Unfortunately it was taken slowly so that the breathing movement of the diaphragm is exaggerated in speed, not in extent. You can see rapid segmentation of the small intestines here.

That shows very well the haustral churnings of the large bowel at this point; also the powerful peristalsis of the colon in the rabbit. Persistalsis of the small intestine. We get better movements of the small intestines in the rabbit than in the dog. That is why it was selected. Also better movements of the large intestine because the rabbit has a saculated colon like man. Haustral segmentations again.

The diaphragm does not shake the stomach so very much here. The haustral churnings are obviously segmental. That is to say, they are the type of segmentation movements seen in the small intestine.

This happened to be a pregnant rabbit and the movements of the uterus are seen here.

There is segmentation movement in the cecum, very good haustral churnings in the large bowel and segmentation in the small intestine.

This is a loop of the large bowel. You see the haustral churnings here. Peristalsis and segmentation everywhere in the small intestine. There is the duodenum in the rabbit showing very good peristalsis and segmentation this side of the large bowel.

We are ending up by trying to show the behavior of the large bowel in the cat. This is the small intestine showing some segmentation,—peristalsis—but the main point in this animal was the large bowel. Segmentation and peristalsis. This is the large bowel. Did you notice this downward curve? That is a small effort at defecation.

Here is the bowel, the rectum is down here. Pay no attention to the peristalsis of the intestine but watch the large bowel. Pay no attention to the diaphragm, either. There is some mass contraction. See how the large bowel slides down. An antiperistalsis going a little distance. A peristalsis going a little distance down, very slowly in the large bowel. Another antiperistalsis.

The large bowel becomes virtually a straight line along the axis of the animal in defecation. Now it is returning.

Are there any questions on this latter part?

Dr. Spiesman, Chicago: How long after the addition of food was the colonic movement noted?

Dr. Carlson: We had not starved the animal. There was residue in the colon.

Dr. Spiesman: Were you noticing colonic movements during the filming of the picture as well as the small intestine movements?

Dr. Carlson: Yes. The colonic movements in a cat under light barbital are more persistent than the small intestines. The stomach and the large bowel resist the abnormal conditions necessary for the filming much better than the small intestine, particularly if the colon is well filled with a relatively fluid mass.

Dr. Kantz: Did I understand you to say you could not produce the shortening of the colon in the dog?

Dr. Carlson: You can but not so easily. The colon in the dog moves pretty much like in the cat. It shortens to one-third of its length when there is a real powerful defecation but it is more difficult to produce in the dog than in the cat, in our experience.

Dr. Andrae: How does the movement of the

stomach compare in vomiting with the normal contracted vagus stimulation?

Dr. Carlson: The movements of the stomach in vomiting have been studied with x-ray both in man and animals and this seems to be the consensus of views as to the ordinary procedure. It starts with hyperperistalsis of the antrum. Then the antrum clamps down like a solid core throughout and holds that way, apparently, with the fundus more or less relaxed and apparently the cardia relaxed and then a strong spasm of the diaphram and the abdominal muscle push the stuff up.

In the child there is some evidence that the stomach takes a greater part in the actual expulsion. The notion that the whole stomach is in a state of antiperistalsis in vomiting is not true; at least not ordinarily, under the conditions when the whole process has been followed under the fluoroscope.

Dr. Spiesman, Chicago: In the past we have always understood that colonic movements or mass movements occurring only after a meal were produced by gastro-colic reflex, and from your pictures I seem to get the impression that these movements continue all through the digestion of food and hours afterwards.

Dr. Carlson: Yes.

Dr. Spiesman: What is your impression about that?

Dr. Carlson: Well, the idea of a gastro-colic reflex has come about, I think, not from any actual observation by means of the x-ray but from the common experience that when you have filled your stomach with food and there is some material in the large bowel, there is frequently a desire to defecate. That is all. But when you start actual search for the so-called gastro-colic reflex in the experimental animal, you do not find it.

Dr. V. S. Weinstein: You said that there was a spasm in the lower portion of the stomach in vomiting. How about the reverse in black vomit in peritonitis?

Dr. Carlson: The stuff that is then vomited has come into the stomach before the actual vomiting. You mean in the case of vomiting bile?

Dr. Weinstein: No, I mean actual vomiting of fecal material in peritonitis.

Dr. Carlson: Your assumption is that fecal material comes from the large bowel. In peritonitis you have intestinal stasis. Is that correct?

Dr. Weinstein: I presume so; I do not know.

Dr. Carlson: That is true, and that is one of the serious complications of peritonitis—food remaining for hours or days in the stomach and the small intestine, becoming fecal in character so that the vomiting of so-called fecal material in peritonitis does not prove that the stuff vomitus has ever been in the large bowel.

I am not saying that such material cannot come from the large bowel. It can under certain conditions but in most cases it is intestinal content—an antiperistalsis there will sweep it up into the stomach. It is in the fundus before the actual vomiting act.

RECOGNIZING TONSIL INFECTION*

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Focal infection has been rightfully given an important place in diagnostic medicine, but there has been a great deal of loose thinking, from a diagnostic and prognostic standpoint, and unnecessary elimination of anatomical structures in the clinical side of this important subject. The failures are still too many, and this paper may serve the purpose of:

1. Re-iterating the importance of the tonsil as a cause of systemic disease.

2. Leading to a more accurate diagnosis of the type of tonsil being dealt with, and pathology present before removal, as is done with other diseased organs, and

3. Creating better co-operation between the internist and the oto-laryngologist in making a diagnosis and prognosis. The plea will not be to remove fewer tonsils, or disparage the past results of their removal, but rather to ask for a more intelligent appraisal of the indications before removal. No brief is held for those who believe that the removal of tonsils in an effort to prevent or relieve and cure systemic disease is overdone, on the contrary, evidence points to the fact that the subject has not yet begun to receive the attention that its importance warrants.

No harm is done if we remove a few tonsils without apparent benefit, if we are able to reduce the incident of those diseases which now cause 25 per cent of human mortality. On the other hand, it is a serious mistake to remove tonsils, assuring the patient of a certain and complete recovery unless the indications and prognosis have been evaluated cautiously, bearing in mind other foci in the body outside the tonsil, as well as the local condition in the throat. Over confidence as to the benefit to be derived in a constitutionally defective patient, must also be guarded against in giving the prognosis. A tonsillectomy is a surgical operation and, while almost a popular demand, the operation still is too

*Read before the Section on Medicine, Seventy-eighth Annual Meeting of the Illinois State Medical Society, Chicago, May 11, 1928.

often unnecessary, and the dangers due to the anesthetic, the post-operative sepsis, embolism, hemorrhage and the morbidity from lung abscess, all indicate that the operation is not to be lightly undertaking, and should only be performed when the indications are clear, the diagnosis has been properly made, and the patient will receive the benefit anticipated. When the proper indications are not present, or are not properly interpreted the result is not satisfactory and may even prove disastrous. In many cases the operation is urgently demanded, and must be performed without delay, while in others it is a matter of election both as to the operation or time of operation. The criterion is well expressed by Professor Canfield[1]—"The operation of tonsillectomy is indicated when the condition on account of which the operation is being considered may logically be the result of focal infection, and when there is a reasonable chance of material improvement." The proper treatment of the particular case must be based upon an accurate diagnosis of disease in the tonsil, and to decide what treatment is indicated requires judgment and experience. The decision as to the presence of a proper indication for a tonsillectomy is not so simply reached as many assume. The throat specialist should not be expected to assume greater responsibility than he is competent to do and the conclusion as to the source of a focal infection, can be revealed only after an exhaustive examination of the case, which can be done more efficiently by the internist than by the throat specialist. Where the question is entirely a local one, with recurring attacks of acute tonsillitis, the presence of local findings indicating a type of chronic tonsillitis which constitutes a real menace, the throat specialist is perhaps best able to pass on the condition. That pathological changes are present in all adult tonsils is readily admitted, but this does not mean that all adult tonsils should be removed. Where the indication for tonsillectomy is the presence of a supposed systemic infection, and where the local indications may not exist which constitute in themselves an indication for tonsillectomy, the decision should be reached only after consultation with the internist. Too often physicians fail to remove or advise the removal of tonsils that are causing remote symptoms because of unfamiliarity with the tonsillar pathology. The disappointments in the results of tonsillectomies are still too frequent, both to the patient and the physician, to allow us to feel that the entire subject of tonsillar infection and tonsillar operation is a closed book and needs no further discussion or elucidation. The patients suffer a lot, live long and talk considerably.

Bacteriological Diagnosis: There is a question whether any data of diagnostic value can be obtained by culture from tonsils or tonsillar crypts. In a series of cultures taken from the throats of school children, Eves and Watson[2] show that the home of the streptococcus hemolyticus is in the crypts of the tonsil, that it has a benign influence on the tonsil itself but associated with many of the complications of all infectious diseases. In none of the throats did they find any microscopic evidence which would enable them to determine the presence or absence of any one class of organism. The examination of the culture from the surface or crypts is of no value in determining whether tonsils should be removed or allowed to remain and the streptococcus hemolyticus is found in tonsils for which there is no clinical evidence that they are a menace. In a large series of excised, chronically diseased tonsils Kilduff[3] and Hersohn showed that the organisms most frequently found were staphylococcus aureus 33 per cent, micrococcus catarrhalis 34 per cent, pneumococcus 54 per cent, and streptococcus only in 6.4 per cent. It is only in doubtful cases that a culture from deep crypts showing a predominance of some form of streptococcus, pneumococcus, and so forth should be considered valid evidence for or against removal. In the climate such as that of Illinois, practically all adults and all children present definite evidence of tonsillar disease associated with the presence of pathogenic organisms, especially in colder weather, so that the finding of an organism or group of organisms on culture or smear, gives no indication that the systemic symptoms may be due to their presence. It is not the presence of the bacteria that causes dysfunction, so that the statement can be safely made and maintained, that bacteriologically the indications for removal cannot be maintained with any degree of accuracy.

Clinico-pathological Diagnosis: Some evidence of chronic tonsillitis can be discovered in

most adults and very often the chief indication for removal of the tonsil may not be the local infection but some form of systemic infection. Focal infection symptoms due to the tonsil may be present where there is no marked evidence of tonsil disease. It is in these cases where the decision as to removal must be made by the internist and not by the throat man. However, the clinical appearance of the tonsil may help greatly in the formation of a decision or throw the balance of evidence for or against the proper prognosis and time of operation. To determine the true pathology present it is necessary to use a procedure somewhat more thorough than a mere look into the throat and more mistakes are made by the practitioner by not looking than by not knowing. This is especially true of the flat sessile tonsil located behind the pillars and unseen if the only instrument used is a tongue blade. It is necessary to know the size, shape and consistency of the tonsil; also the presence of debris, pus or abscess formation in the crypts. For this purpose the blunt T-shaped Hess tonsil expressor is ideal and should be used on every case. Enough pressure must be used to dislodge the tonsil from its fossa or to move the tonsil and attached musculature into a position where it may be compressed against the lateral or posterolateral wall of the pharynx. Enough pressure is used to engage the tonsil against the T of the expressor; simply pulling the pillar aside accomplishes nothing. Bands of inflammation on the anterior pillar no matter how large or of what color usually means trouble in the tonsil. If the band is red, narrow, with an angry purplish appearance and a sharp edge, the organism most likely to be found is the streptococcus, and if the patient has rheumatism, neuritis or other streptococcus toxemic symptoms, removal will very likely cure the case. If the band of inflammation is wide, diffuse, and bright red, it is probably staphylococcus and if the focal symptoms point to this type of infection a tonsillectomy will cure the patient, but if this type of pillar is present with focal symptoms, indicating streptococcus, or mixed streptostaphylococcus, the result will likely be disappointing as far as the cure of the focal symptoms are concerned. The types of tonsils ordinarily encountered can be classified into the following groups by their appearance.

A Simple Hyperplastic, Without Symptoms: This type is found in the normal healthy child in our climate and must be considered as a part of the general protective lymphatic ring or chain. This lymphoid ring is not an extraordinarily active focus of infection, but on the other hand has actual use as a preventive of infection into the cervical lymphatics, a sufficient amount of healthy lymphoid tissue being necessary. Frequently tonsils of this class are removed, only to have the other portions of the lymphoid ring hypertrophy to protect the individual. If this does not occur, the local resistance is lowered and we find often that there is increased susceptibility to nose and throat infections. This is especially true if the tonsils and adenoids are removed at the formative period from three to six years. Canfield[4] has given a very fine description of this lymphoid ring and the dangers of ill-timed removal of tonsils. He says:

> I have come to consider that there is a certain type of child, for instance, in which an altogether successful result may not be expected. Especially if the child is operated upon during the first three or four years of its age. I described this child as a spindle-legged, thin bodied, freckle-faced blond, with thin skin and large veins marked in the temporal regions. This type of child will probably build up after operation, masses of lymphoid tissue on the posterior pharyngeal wall and even in the tonsillar fossae; will develop an edema of the nasal mucous membrane, will show an increased susceptibility to colds and upper respiratory infections, and will often develop a cough which persists for several years without demonstrable organic cause. I have seen this happen so often that I now look upon the removal of the adenoids and tonsils from such a child with some concern and in each individual case attempt to set down side by side—on the one hand, the clinical importance of the focal infection, and the disease which seems to result from it, and on the other hand the unfortunate susceptibility to mild respiratory infections that may result from the operation. In other words, I attempt to evaluate the adenoids and tonsils in respect to their importance as a focus of infection and as a useful element in the ductless gland system.

The lymphoid type of tonsil may persist into adult life and may need treatment on account of their presence. It is this tonsil that can be reduced very successfully by x-ray treatment.

B—Chronic Hyperplastic Tonsillitis

These patients may be entirely without symptoms of acute tonsillitis or sore throat, and yet,

the tonsillar infection may lead to sudden exascerbations of symptoms after years of quiescence just as an appendiceal infection will be dormant for years and then flare up. There may be no symptoms from this type or we may have symptoms due to obstructed breathing, cervical glands, intestinal disturbances, periodic pyelitis co-incident with head colds, and bone and joint disease. This type of tonsil is commonly found in childhood, but later in life may cause focal infections. One of the most common is general asthenia with loss of energy and initiative, but without demonstrable organic disease. The patient tires easily, has anorexia and may have gastric symptoms. This tonsil starts as a simple hypertrophy but the mucous membrane becomes destroyed by repeated attacks of acute infection and the tonsil then becomes a reservoir of infected material which awaits a lowered local or general resistance to enter the lymphatic. The tonsil has cystic crypts, sclerotic vessels, scar tissue, hyperkeratosis, hyaline degeneration, bacterial colonies in crypts, and fibrosis of the capsule. There are no capsular adhesions and the tonsil works up its own immunity usually. Cheesy masses of exudate can be expressed from the crypts. The more common diseases of focal origin such a rheumatism, neuritis, etc., are seldom found in this type. Cervical glands are usually found present, and peribronchial glands are commonly found.

C—Chronic Hypoplastic Tonsillitis

This type is far the most common in adults, but may be found in children. The start as type B but due to successive attacks of acute infection the lymphoid tissue is destroyed, leaving only a small amount with diseased crypts, scar tissue and a marked fibrosis of the capsule. The pillars are usually injected. These tonsils are seed plots for the "weeds" of bacteria when the soil is depleted by overwork, exposure, etc. Painful throat is frequently experienced due to the capsular adhesions formed and ear symptoms are common. Cervical glands are seldom found in this type and acute attacks of tonsillitis are rare. It is this type that offers the best hope of results.

D—Rheumatic Tonsil

Maclachlan and Richey[5] have described a distinct type of tonsil found in rheumatic fever, being led to the study by the association of rheumatic fever and tonsillitis. They found that there is no characteristic lesion in the tonsillar tissue proper, but that at the time of tonsillectomy an unusual degree of peritonsillar inflammation or fibrosis was present. The tonsils are so adherent that lines of cleavage are obliterated and the pericapsular tissues are extremely vascular. After a time this is replaced by fibrosis which is widely distributed instead of in localized deposits as in quinsy beds, nor is it as thick and dense as the scar tissue found in recurrent peritonsillar abscesses. The tonsil is firmly fixed in the fossa and cannot be displaced from behind the pillar. The blood vessels in these tonsils are large and tortuous and there is present a marked arteriosclerosis in the capillaries. Fibrosis of the tonsil may not occur with pericapsular fibrosis and the tonsil may be large or small.

E—Tuberculosis of Tonsil

From two to five per cent of all tonsils removed show tuberculosis and this has led to the belief that tuberculosis makes its entrance through the tonsil, and lymphoid tissue of the throat. Clinically, children can be placed by a careful study of their throat history in one of the following three classes.[4]

1. Those with microscopic evidence of tuberculosis in the tonsil but none in the glands. After repeated attacks of tonsillitis a persistent sore throat with some pain on swallowing remains, but in which all evidence of involvement of the glands disappear. This occurs normally in children who remain underweight, have slight afternoon temperature and weariness after exertion.

2. Those with microscopic evidence of tuberculosis in the glands but none in the tonsils. After repeated attacks of tonsillitis the tonsil recovers but the infiltration of the glands persists. Even a moderate enlargement is sufficient. A cure follows removal. Some degree of enlargement in the cervical glands is present in most children. The fact that these glands subside after tonsillectomy indicates that the infection is usually a simple inflammation and not tuberculosis. Tuberculosis is probably a late secondary infection and the enlarged cervical glands are due to a septic absorption with the tuberculosis as a secondary infection.

3. Those with microscopic evidence of tuberculosis in both tonsils and glands. Between at-

tacks there is complete recovery in throat and glands, but there are no other findings of tuberculosis elsewhere in the body, yet the history points strongly to tuberculosis. Tonsils in tuberculosis children should be removed, even though they appear normal and especially in children living in a home with open tuberculosis.

General Considerations: Failure of tonsil operations cannot always be charged to faulty diagnosis of the tonsil itself, but may be due to untrained operators, incomplete removal, disregard for other elements in the lymphoid ring, post-operative distortion, and untoward complications, disregards of questions of diet and hygiene. The time of operation is of very great importance and injudiciously timed interference may lead to keen disappointment on the part of patient and physician. Careful study, with proper post-operative supervision, will often obviate annoying explanations to the patient and friends. The keynote of success in tonsil diagnosis will be first of all, to make a careful study to prove as nearly as possible that the disease and symptoms can be caused by the tonsillar condition, barring out other sources of the morbidity in other parts of the body, and bearing in mind that a failure in the cure may be due to haste, laziness or carelessness. More mistakes are made by not looking than by not knowing and a word of warning—a physician should not try to express an opinion on a throat with an apparently bad result until he has made a very exhaustive study of that particular case.

CONCLUSIONS

1. An accurate diagnosis of tonsillar disease must be made before operation, to obviate needless operations and determine the benefit the patient may expect to receive.

2. Except in purely local tonsillar disease the diagnosis and interpretation of indications for operation cannot be made solely by the nose and throat man, but must be done by the internist. To the internist, pediatrist, or the family physician should fall the responsibility of coordinating the facts, dictating the operations and outlining the future treatment.

3. As many tonsils are needlessly removed, subjecting the patient to the risks of operation and without benefit as are left in by inaccurate diagnosis of the tonsillar disease.

4. It is not always possible to determine the relation between systemic disease and a tonsillar condition, but careful examination of the tonsil, and a complete history of the patient's symptoms may be big aids in establishing the etiology and indicating the treatment.

5. In children the appearance of the tonsil should not be the determining factor, but the history of infections and symptoms must determine when tonsils should be removed.

6. Closer co-operation should exist between the nose and throat specialist and the internist in studying tonsillar disease, and the benefits to be derived by tonsillectomy.

7. Removal of tonsils will not repair the damage done in other organs, and complete cure of the symptoms based on a tonsillar infection cannot be prognosticated, neither can the bad results and incomplete cures be used as an argument against tonsillectomy, an operation which will prevent further damage, but cannot repair that already done.

8. Removal of the tonsil does not cure the patient. He should return to the physician for reconstructive treatment, further observation and continued advice, constantly bearing in mind that there may be further foci present that prevent complete recovery.

9. Look carefully, think hard, be cautious in prognosis, and don't promise too much unless you are sure of your diagnosis.

DISCUSSION

Dr. D. C. Sutton, Chicago: Mr. Chairman and gentlmen: I am very pleased to have Dr. Meixner call a note of conservatism in regard to the removal of the tonsils and placing the effects of that removal in generalized disease.

A number of years ago Alvarez published in the Journal A. M. A. careful records of a large group of cases who entered his office as previously having had a tonsillectomy. He divided them into groups as to the reason why the tonsils were taken out. The first group consisted of those who had frequent attacks of tonsillitis. Their own opinion of the results was practically a hundred per cent good.

When the tonsils were removed as possible foci of infection in arthritis and various other lesions presumed to be of focal origin, the results were much less spectacular. As I remember the figure, it was between sixty and seventy-five per cent. When the tonsils were removed because the physician or the nose or throat man thought they looked like they should be removed, because they were definitely diseased, the results were much poorer,—around

twenty-five per cent, satisfaction as far as the patient was concerned.

Finally, he had a small group in which the tonsils were removed as a matter of general principle. Those were completely dissatisfied, a hundred per cent.

There is no question that a certain amount of general infection, especially arthritis and neuritis, does follow from foci of infection in the tonsils, teeth, possibly gall bladder, etc., and if so the tonsil should be removed as a possible focus of infection. But, as Dr. Meixner has called attention, by careful observation we may be able to judge more definitely as to whether the tonsil has something to do with the infection and, even with that, must be conservative as far as believing that that will be the sole cause or result in a cure.

Another observation that I'd like to call your attention to that was given to me a few years ago by a pediatrician on the North Shore of Chicago where the patients are able to have tonsillectomy in practically all their children. He made the remark that a rheumatic heart disease of childhood should entirely disappear in such districts because a hundred per cent. of all those children had their tonsils removed. He caused me to watch for possible heart complications occurring without tonsils.

Rheumatic endocarditis can occur with the tonsils out, so that even in children the removal of tonsils as a possible preventive of future diseases certainly is not warranted and tonsils should be removed on indications within the tonsil and not so much on general conditions.

Thank you.

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Dr. Meixner: I just want to reiterate one point. That is, don't carelessly send a patient to a nose and throat man when you suspect systemic infection and expect the nose and throat man to take the responsibility to say whether the tonsil should be out or whether they should not be out. And secondly, after you have had the tonsils removed in a case of systemic infection, don't tell the patient to go home and not report back to you or neglect to tell them to come back. The patient needs as much, perhaps more, treatment after the tonsillectomy in follow-up work and watching for other foci of infection as before.

Many times the patient will return to the eye, ear, nose and throat man once or twice and then the general practitioner loses interest and the patient wanders off to another clinic or physician for further treatment.

Take care of your patient after the tonsillectomy as well as you did before the tonsillectomy and results will be much better.

FACIAL NERVE DANGER POINTS IN MASTOID SURGERY*

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Of all the disasters following mastoid surgery there is only one greater than facial paralysis and that is death itself. The thought of this calamity lies back in the mind of every operator in every operation as a possible sequel. It is impossible to determine the percentage of cases of mastoid operation in which facial paralysis does occur as one of the sequelae, but the estimate has been made that it occurs in between two and three per cent. of the cases. While I do not intend to enter into a general discussion of the anatomy of the nerve I do want to call attention to three points in the course of this nerve through the temporal bone which bear a relation to mastoid surgery.

The first point is that the external wall of the Fallopian aqueduct where it crosses the inner wall of the tympanic cavity is very thin. In some specimens the wall has dehiscences and in others the outer wall is almost entirely absent. To those who practice curettment of the inner tympanic wall in their tympano-mastoid operations the danger in this locality is one of real importance. My own impression is that the good to be accomplished by curettment in the ordinary radical mastoid operation does not compensate for all the danger to the function of hearing or to the integrity of the facial nerve.

The second point I wish to make is regarding the relation of the nerve to the posterior attachment of the drum membrane. Following the downward curve adjacent to the horizontal semicircular canal the nerve follows a course directly downward. It swings neither forward nor backward, inward nor outward. Because of the slanting position of the membrane the upper part of the membrane lies more superficial (surgically) than the nerve while its lower part lies

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deeper than the nerve. Directly back of the middle of the posterior attachment of the membrane and on the same level, i. e., the same distance from the outer surface of the temporal bone, lies the facial canal. The distance from the annulus to the canal at this point varies from two to three millimeters. Hence in removal of the posterior wall of the canal in radical mastoids the annulus tympanicus can be chiseled away above its middle, but below its middle it must be let alone.

The third point is that the nerve in its downward course through the temporal bone frequently passes through cancellous bone, i. e., the mastoid cells extend entirely around the nerve, and the deep perpendicular cells may extend several millimeters deeper than the nerve. In attempting to exenterate the deep perpendicular cells and those more superficial which extend around the nerve great care must be exercised, but when these cells are suppurating, or are broken down, or when the lateral sinus is located superficially and is placed well forward even greater care becomes imperatnve.

We frequently hear of abnormalities in the course of the nerve in its passage through the temporal bone, but in the performance of several hundred mastoid operations on the cadaver I have never found any considerable variation in the position of the nerve although there is much variation in the structure of the bone through which the nerve passes.

DISCUSSIONS

Dr. A. A. Hayden, Chicago: Gray's Anatomy is my authority for the statement that the seventh nerve is the most frequent of all the cranial nerves for the site of paralysis to occur. I think that the statement Dr. Andrews made in his opening remarks, that death itself is the only greater catastrophe that can follow operation than paralysis of the nerve, is true. It is at least too true that subsequent procedure for the removal of this very disfiguring effect cannot be relied upon to affect a cure. I once thought that paralyses were to be looked for only as a complication of radical operation in cases where radical procedures had been done. But I saw a case in my own office last year where the nerve had been cut in a simple mastoid operation. I talked with the man who operated on that case this morning. The difficulty seemed to be that the aditus antrum was situated very deeply in a sclerotic mastoid where it was difficult to find. Every effort should be made to avoid such occurrences. Dr. Andrews says the course of that nerve is fairly constant, but I call your attention to the fact that he says that the nerve is sometimes not as well protected in some subjects as in others. In such subjects one stroke of a curet or one turn of the burr, if a burr is used, can sever the filaments of its placement. One of the best means of prevention of injury to the nerve should be the delay of all bone work that has to be done in the vicinity of the nerve until the last of the operation if possible, because at that time your patient will be almost awake and the unilateral twitching of the eye and face can be readily noticed by the anesthetist and reported. You will have the twitching of the eye reported to you frequently when the nerve is not being stimulated, but I think this will very seldom occur with unilateral twitching.

We must also remember that the nerve of Rissberg is also very frequently involved. One of the difficulties that these patients have in facial paralysis is that food lodges between the jaw and the cheek. Watering of the eye is frequent. I saw one case about four days after operation which appeared to be due to packing or transitory edema of the nerve sheath.

Dr. A. A. Hayden, Chicago: About the nerve being very superficial in infants. A man appeared before the Board of Examiners in Washington and a question was asked him about the superficial location of the nerve in infants and he didn't know anything about it. He was turned down. I think we are apt to forget that the nerve does come out very superficially, and that skin incision if carried below the tip is apt to cut it.

THE TRAINING OF AN EYE, EAR, NOSE AND THROAT SPECIALIST*

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The training of the specialist has occupied the attention of educators for many years. Various opinions have been expressed advocating this and that idea, largely based upon the writer's personal viewpoint and experience.

Post-graduate schools have been organized throughout the country with more or less success. Some of these schools have attempted to give intensive courses on these subjects covering a period of several weeks or more and issuing at the end of that time a certificate of more or less value. Individuals taking these courses which must necessarily be almost entirely didac-

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tic, have returned to their homes with the idea that they were now justified in appealing to the public as specialists. As time went on they soon found out that they knew very little more than they could have acquired by reading a very small text-book on these subjects. At the present time there is a tendency to go to the other extreme; that of giving very lengthy courses on every detail in these specialties. Some of these courses run over a period of several years. That these very long courses are more commendable than the very short intensive courses is self-evident. That there is also a need of these short courses cannot be questioned, but not for the purpose of making of the general practitioner a specialist. Such courses have a definite place and can be made of much value to the general practitioner, that is, for the purpose of aiding him in recognizing the serious diseases and treating the more common conditions more intelligently. That a happy medium may be reached in the future is to be expected. That individuals will be able to receive just the kind of training they wish is sure to come, the difficulties may be many, but that the opportunities will be present is quite certain. Those seeking higher medical knowledge and research opportunities are sure to find what they want if they want it bad enough.

The observations, suggestions and what opinions I may express are based upon a personal experience in one of the largest and oldest institutions devoted to this work in this country. Having occupied the position of managing officer of the Illinois Eye and Ear Infirmary for the past seven years and having had the privilege of attending the regular monthly staff conferences and meetings of the executive board where matters of this nature are frequently discussed, I believe I am in a position to have an opinion. That this opinion will not meet with the approval of all those interested in this subject is to be expected. However, as a result of these many and varied contacts I am sure I am expressing only what appears to be the concensus of opinion of the interested men and women I have had the good fortune to meet. Our ex-internes are distributed throughout the country; the greater majority are located in the central and western states, where they occupy enviable positions in their individual communities. Now a word or two about our own institution which is limited to 135 beds with an out-clinic department that takes care of about 100,000 patients per year. We have six senior eye surgeons and six senior ear, nose and throat surgeons, about thirty-six assistants, with eight internes. Our nursing staff, although somewhat limited, is composed of intelligent, well trained graduates. The fact that the positions of interne are always keenly sought for is in itself sufficient evidence that what we have to offer must be of a very excellent character.

With this as a background we may proceed to express our experience in the past, what we are doing at the present time and what we believe would make an ideal state to attain.

It would appear from the records at our disposal and from the information obtained from previous internes and the older men holding positions on the staff, that a more ambitious, hard-working type of young man occupied the position of interne in the past than is now obtainable. These statements are naturally open to question and will probably require some modification. Personally, I cannot agree that human nature has changed very much in the last twenty-five or thirty years. I am inclined to think that ambition and perseverance are still to be found in our young men, some manifesting it more than others, but on the whole we must concede that the young man of today is a far better trained physician than his brother who graduated twenty years ago.

In the past it was argued that a man should devote from five to ten years to the general practice of medicine before he seriously decided to take up any particular specialty. This was unquestionably good practice but it surely requires some revision today. The adoption of the fifth year as an interne in a general hospital required by our Class A schools will go far toward solving this problem. I believe such a young man is better material for specialistic training than one who has had five or six years of general practice as suggested in the past. There is much evidence to force one to the conclusion that a man in general practice for the suggested length of time has made such contacts and developed such tendencies—social, financial and scientific—that are not conducive to the mental attitude required for specialistic training today.

Regardless of these factors, which we do not

look upon with much favor today, we find that our internes of the past have given a very good account of themselves. It is, of course, true that in years gone by, training for the specialties was not so extensive, but even so, it was almost unobtainable in this country except in the so-called post-graduate schools with their four to eight week courses. As a result it was almost a necessity to invade the European clinics for information. From what I am able to gather from those visiting the European clinics with their intensive courses, I should judge that they were not a great improvement on those offered by our own post-graduate schools. Even in Europe it was necessary to associate one's self with a clinic for a long time in some capacity, regardless of how menial, to obtain a real training.

A word should be said for the system of training that was probably most efficient in the past, that of a young man associating himself with an older and experienced man as his assistant. This system in all probability was the most successful. I am not so sure but what it is still the best method of training today. To elaborate: A young man with such an association and in addition, the opportunity of working in the clinic under this supervision, must acquire a knowledge and training not obtainable by any other method with the possible exception of an internship in a large institution devoted to this work.

Thus may we sum up the past in the preceding paragraphs to which I am inclined to think we need not bow our heads in shame. As to the present day training, I am sure we have progressed very materially. The under-graduate Class A school with its fifth year as an internship in a general hospital must be conceded to be a vastly improved product over the graduate of twenty years ago, although much fault may be found with this newer product in many ways. There would seem to be hopes that he will eventually find his bearings and prove to be of much value to the practice of medicine. His education has probably been over-stressed in the direction of a marked dependency in laboratory reports and in the use of mechanical devices for the recognition of disease. This training has naturally been at the expense of the development of the finer clinical side of the methols of diagnosis, namely, the use of the senses of observation and judgment. We can say very definitely from our own experience, that a young man who has just completed his fifth year in a general hospital makes a very superior interne to the one who has been in general practice for five years or more. Our experience has disclosed that a young man so trained displays a keener appreciation of the refinements necessary for the making of a specialist in this class of work. He is fresh from the lecture room, his mind is open and pliable, his clinical and hospital work has been supervised by men of experience and ability. His knowledge of physics, chemistry, physiology and pathology are still fresh in his mind and he can apply the basic principles underlying these subjects to the tissues of the organs which he will now have to deal with. His theoretical and clinical knowledge of general medicine, surgery and neurology and their probable relation to these organs of special sense are likewise fresh in his mind, quite possibly hazy—but he is ready for further development.

An intenship in the Illinois Eye anl Ear Infirmary covers a period of sixteen months, four months of which are devoted to the laboratory, general medicine, etc. This is followed by six months service in the eye department and six months of ear, nose and throat work. These services cover every phase of the practical work, namely: history taking, external examination, ophthalmoscopy, retinoscopy, refraction, operative surgery hospitalization, etc., In the ear, nose and throat department: medical and surgical treatment including that on mastoids tonsils, sinus work, submucous and other operations. No regular lectures are given. During the first four months the new interne associates with the older internes who help him in acquiring the fundamentals. He is always under the supervision of one more experienced than himself and can consult with the chief when matters not well understood arise. Lectures are given occasionally when requested by the internes. Although this may not appear to be an ideal outline for the training of a specialist, it has proven to be a very valuable and practical course in our specialties. These young men are occupied during the entire day with practical work and employ their evenings in reading. Unfortunately this must be limited to the number of internes the institution can accommodate. A more perfect training

would be a regular course of lectures on the various subjects, namely, anatomy, physiology, pathology, etc., in addition to the practical work. Such opportunities are afforded by other institutions of this character throughout the country but this is still inadequate to take care of the many who aspire to engage in these specialties.

The question then arises: What may we suggest to the many who are constantly looking for this class of training and what have we to offer such an applicant at this time? Our own institution is not a teaching one, although we do hope to put such a program into effect some day. Reputable physicians are always welcome to visit the different departments at the present time and make such observations that may interest them.

Thus we have left the two courses open to them; two extremes, that is the very short and intensive course and the very long course. Of the very short course we have made some mention, but I wonder if such a course might not be of some benefit to a young man, if in addition he associated himself with an older and experienced man as his assistant.

Relative to the very long courses I believe that they will develop into very useful forms of instruction in the future. Of the long courses offered in the eastern schools, I can say but little, having had very few contacts with such students, but one must admire the outline of their courses as described in their literature which seems to cover the work completely and in an attractive manner.

As to the future—I am inclined to think that a happy medium between these two extremes will eventually be offered. On one phase of the question, first, there must be some reasonable agreement, namely, shall the object of the training of a specialist be for the purpose of practicing medicine and surgery or shall he be trained to be a research worker. Personally, I am of the opinion that such training should be for the purpose of taking care of the sick. I am inclined to think that research work should be left to the research worker and his laboratory associates, but consultation with the practicing physician should be encouraged. Men and women trained to do genuine research work are inherently differently constituted mentally. They must possess elements of imagination and their viewpoint is naturally different. They may not at all times appear practical to us, but their interpretation of such work is surely more dependable than that of the practicing physician.

There is a tendency in some parts of the country to permit students favoring these special subjects, to so pick their work during their undergraduate years as to favor these specialties at the expense of the more general training. This should be thoroughly discouraged and looked upon as a distinct step backward. No specialty is greater than the general practice of medicine. A specialist is and must be a physician primarily, and only secondarily one who has acquired special knowledge and experience in certain subjects. These specialties, in particular, ophthalmology, are too intimately associated with general medicine to permit substitution for even apparently minor subjects.

The most important function of the physician must still remain the art of healing the sick. To best accomplish this he or she must be well trained, firstly, in the fundamentals and secondly, in the practical application of this knowledge. The accumulation of a vast knowledge is worth nothing unless one can use it. The idea of filling a student's head with theory upon theory and the elaboration of the minutiae of these theories and like information will make of one but a store-room of words. The fundamental subjects, namely, physiology, physics of light, sound, etc., should not only be given in the form of lectures but should be supplemented with laboratory demonstrations. This work should cover at least three months. The next three months should be devoted to gross and microscopic anatomy pathology, bacteriology and like subjects. The remainder of the time which should cover a period of from six to twelve months, should be devoted to the practical side of the training. The young recent graduate of a Class A school could probably cover the first two periods in less than six months, but he surely could not hope to accomplish the practical side of such a course in less than one year.

This would probably be almost an ideal training for a young man and yet there seems to be something lacking to fulfill one's idea of a specialist. This idea may be old fashioned; probably due to the fact that the older men had to pay such a tremendous price in their training before they were accepted as specialists. Recog-

nition as such naturally takes time and hard work during which one acquires a clinical experience which after all, is of the greatest importance. Any one can make a diagnosis of syphilis with a positive report from the laboratory on his desk, but only a clinician of experience can make such a diagnosis with negative reports. One could elaborate on this idea to a very great length, but I am inclined to think that educators are beginning to realize that too much stress has been directed to the laboratories at the expense of clinical observation and they now seem to be swinging to a more happy medium.

Where could such a course be successfully given? Surely not in the post-graduate schools that grind them out in six or eight weeks! The fundamental subjects would almost have to be given in a university that not only has lecture rooms, but well equipped laboratories and teachers of experience. The practical work could be given in an institution having a large out-clinic department and a sufficient number of beds for hospitalization.

The more I discuss these matters with the serious minded young men and the older men of experience, the more am I inclined to the conclusion that clinical experience plus an alert mentality makes of a man a specialist, not an additional certificate.

DISCUSSION

Dr. E. K. Findlay: We are often asked "Where should I go for the best training in eye, ear, nose and throat?" The days of short and easy courses are gone. The medical units in cities and large communities are calling for thoroughly trained specialists. Dr. Steiner has mentioned the internship at the Eye and Ear Infirmary and the same conditions are true of an institution like Cook County Hospital, but unfortunately these conditions are open only to a few. The universities have endeavored to meet the condition, and have made great advances in teaching postgraduate work, but in this city we have an ideal condition. We have four large universities, well endowed and well equipped. We have an individual infirmary with a wealth of laboratory and clinical material. Now if these various places were united in a reciprocal way so that physicians could spend part time at the university for scientific training and part time as student assistants in the infirmary they would get excellent training in this branch of the specialty. The Infirmary has twelve services. These would afford opportunities to quite a number of student assistants. These assistants would be a great advantage to the infirmary. They would relieve an overworked staff and allow more time to be spent in studying individual cases. Opportunities are available in this city for clinical observation and scientific training that could not be surpassed in any medical center.

Dr. W. H. Wilder: Having been associated with the Eye and Ear Infirmary for something like twenty-five years I know that the valuable facilities that exist there have been in the past more or less neglected for clinical teaching and I think that they are neglected today, which is extremely unfortunate. One reason is that there has not been in connection with the institution such a far seeing man as Dr. Steiner, who has just read this splendid paper. I can anticipate that with the stimulus his paper ought to exert, these excellent facilities will be utilized. Dr. Findley has stated that the Infirmary should furnish opportunities for at least twelve to eighteen young student assistants to get practical work there; and if there were a concerted attempt made by members of the staff who are interested they might get cooperation of some of the universities so that the men who come to prepare themselves in these specialties could go to the laboratories of the universities to get certain fundamental work in the mornings and put in the afternoons in clinical work as student assistants. All this, provided you have the staff properly organized with men interested in teaching and using the material for demonstrating the various subjects. It seems to me there is a splendid opportunity at the Illinois Eye and Ear Infirmary for development of a Post Graduate School.

The American Board for Ophthalmic Examinations considers a man as prepared for their examination who has had an internship in a special hospital, plus one year additional training in private practice or a well organized clinic, and until he has such training he is not allowed to appear before the Board. The Infirmary could and should offer oportunities for special training that would meet such requirements.

Dr. Norval Pierce: I have met a number of exinterns from the Illinois Eye and Ear Infirmary during the past few months, and without exception they are taking a very prominent part in medical life on the Pacific Coast. They occupy teaching positions in the various universities and hospitals. Some have done some very creditable research work. Fenton, for instance, has just been given the Casselberry prize from the American Laryngological Association, for original work on the anatomy of the sphenopalatine ganglion. These men from the Infirmary are taking a prominent part in the medical world in all parts of the country. I notice that Dr. Steiner said that lectures were given, when the interns requested it. That may have been a sly dig at the Staff. I cannot help saying that I believe that the Infirmary is not organized as it should be for teaching purposes. The vast material

that is there is largely wasted as far as scientific research is concerned and as far as it is utilized for teaching. I am sure that under the leadership of Dr. Steiner this can be remedied. It is my desire that the University of Illinois and the Infirmary become affiliated. I am quite sure that graduate work and training of specialists should be under the supervision of a university where the various departments of medicine can be correlated. I believe it is a mistake to regard research men as having a special endowment from the Deity. We are not all great thinkers, but we may all be workers in the field of research and investigation, amplifying, applying and extending and contributing to the work of science. I think every physician should be imbued with the feeling that, having received all the past has to give, he should contribute something in return to knowledge of the future. That is the research spirit. Without it medicine cannot advance. The Illinois Eye and Ear Infirmary, under proper guidance, should be eminently fitted to a place where scientific work could be accomplished. I do not believe it can reach the greatest possible good as regards its relation to the patients to the state or to the profession as long as it remains an isolated institution.

WHY A DEATH CERTIFICATE IS IMPORTANT

Certificates of death are important factors in the keeping of accurate vital statistics. The bureau of census of the Department of Commerce at Washington has arranged standard methods of reporting and the states that conform to its requirements are grouped into what is known as the United States registration area.

The bureau sets forth the following reasons why reporting of death certificates is important, quoted in Hygeia by Dr. Thurman B. Rice:

1. Certificates of death or certified copies of them are constantly required in courts and elsewhere to establish necessary facts.

2. Pensions or life insurance may depend on proper evidence of the fact and cause of death.

3. Titles and rights to inheritance may be jeopardized by the failure of records.

4. Deaths should be registered that public health agencies may know the causes of death and act promptly to prevent epidemics.

5. Deaths should be registered promptly that the success or failure of all measures attempted in the prevention of disease may be accurately determined.

6. Deaths should be registered that individual cities and localities many learn their health conditions by comparison with conditions in other communities and determine thereby the wise course of public health activity.

7. Deaths should be recorded that home-seekers and immigrants may be guided in the selection of safe and healthful places to live.

THE JUNK MAIL NUISANCE

The mail we receive each day, especially in the first delivery, is becoming a nuisance. Quantities of letters sealed and unsealed; blotters, calendars, pamphlets, booklets, books, circulars, samples of almost everything in boxes, containers and otherwise, and hundreds of post cards written, typed, and printed, make up in general a mass of waste paper and refuse. If one takes the time to carefully open all of this and glance through it—reading it is naturally quite impossible and entirely out of the question—much valuable energy and time is wasted.

By simply glancing at this usual bundle of mail we can of course, tell at once what to open and what we need not bother with. The really important communications are easily sorted out and the remainder is trrown away without further consideration. In the majority of instances, this form of advertising, etc., accomplishes nothing. It is really a problem to dispose of the contents of one's waste basket.

As we have pointed out many times, and this applies particularly to business concerns dealing in products, which are intended for the physician, if these were brought to his attention through the advertising pages of the medical journals in the proper ethical, professional and scientific way, his interest would be more readily aroused and maintained. The doctor's medical journal is always kept on hand for at least some time and is certainly more often looked over than is the letter or advertising matter which he gets in the mail. —Ed. *Am. Med.*

NEEDED HER SLEEP

Mistress: "Mary, has the druggist sent that sleeping powder yet?"

Maid: "No, ma'am."

"Then ring him up and ask him if he expects me to keep awake all night waiting for it."

GHOSTS

Rastus: "Ah done hear yo' stayed in de haunted house last night. What happened?"

Sambo: "Bout two o'clock ah woke up an' a ghost came frew de side wall es' if de wall wasn't dere."

Rastus: "An' what did yo' do?"

Sambo: "Boy, ah went frew de other side wall de same way."

Society Proceedings

ADAMS COUNTY

The regular monthly meeting of the Society was called to order by the President at 8:50 P. M., May 13, 1929, with twenty-six present.

Dr. Warren Pearce gave a short talk concerning the recent meeting of the American College of Physicians which he attended in Boston. This was followed by a Symposium on Gastric Ulcer. The following participated, with subject of paper:

1. History and Incidence—C. A. Wells, M. D.
2. Pathologic Anatomy—Frank Cohen, M. D.

3. Pathogenesis—T. B. Knox, M. D.
4. Symptomatology—John F. Ross, M. D.
5. Sequelae and Complications—John A. Koch, M. D.
6. Diagnosis—Harold Swanberg, M. D.
7. Medical Treatment—Ralph McReynolds, M. D.
8. Surgical Treatment—A. H. Bitter, M. D.
9. Surgical Treatment of Crisis—H. J. Jurgens, M. D.
10. Technique of Operations—J. E. Miller, M. D.

Discussion on the symposium was lead by Dr. O. F. Shulian who was followed by Drs. Nickerson, Williams, Beirne, and Pearce.

Dr. Nickerson submitted the following resolutions which were adopted without a dissenting vote:

Resolved, That the Adams County Medical Society in regular monthly session, fully approve the action of the Chicago Medical Society in expelling Dr. Louis E. Schmidt from the Chicago Medical Society for unethical conduct,

Further Resolved, That our Counselor and our Delegate to the Illinois State Medical Society are hereby instructed to support the Chicago Medical Society in any action that may be brought before their respective bodies.

Dr. Shulian made a motion expressing appreciation to the Secretary for the articles that had appeared in the local press relative to the Schmidt controversy with the Chicago Medical Society. This was seconded and carried.

The meeting adjourned at 12:05 A. M.

HAROLD SWANBERG, M. D., Secretary.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Joint Meeting with Chicago Society of Industrial Medicine & Surgery, May 1, 1929

Moving Picture—The Relation of Absorbable Sutures to Wound Healing.....Courtesy Davis & Geck

Factors in the Determination of End Results and Permanent Disability.

.....Henry H. Kessler, Medical Director, State of New Jersey Rehabilitation Commission

Discussion—Ralph M. Carter, Green Bay, Wis.

Regular Meeting, May 8, 1929

Moving Pictures and Travelogue—Chicago Milwaukee, St. Paul & Pacific Railway System.....Mr. L. V. Hitzfeld, Asst. Passenger Agent

A Brief Historical Sketch of the First Medical Institution West of Cleveland—Illustrated.....H. H. Martin, La Porte, Ind.

New Features in Medical Economics..G. Henry Mundt

Discussion—Michael Davis, Director Medical Service, Julius Rosenwald Fund.

Joint Meeting of the Illinois Division of the Society for Experimental Biology and Medicine and the Chicago Medical Society, May 15, 1929

1. Self-Disinfecting Power of the Skin.....Lloyd Arnold and Charlotte Singer
2. Experimental Hypochloremia.....G. M. Curtis and G. N. Pacheco
3. On the Absorption of Histamine from the Intestine.
   I. The Influence of Various Chemical Agents Applied to the Mucosa.....L. F. Mammoser and T. E. Boyd
   II. The Effect of Parathyroidectomy .....R. W. Albi and T. E. Boyd
4. The Mechanism of Stimulation of Gastric Motility by Insulin Hypoglycemia.....J. P. Quigley (Introduced by Dr. A. J. Carlson)
5. The Influence of Acute and Chronic Jaundice on Gastric Secretion and Motility ..... Katherine Still (Introduced by Dr. A. J. Carlson)
6. The Fractionation of the Proteins and Their Skin Reactions on Sensitized Individuals..... B. Z. Rappaport and Mr. A. C. Johnson (Introduced by Dr. Walker).
7. The Efficacy and Advantages of Calcium Gluconate as a Therapeutic Agent.....S. A. Szurek (Introduced by Dr. Luckhardt)
8. Simple and Efficient Method of Clinically Reinforcing Knee Jerk.....A. B. Luckhardt
9. The Cutaneous Maximus Reflex in Experimental Hypothyroidism .....M. M. Kunde
10. Changes in the Structure and the Lipin Content of the Central Nervous System in Ether Anesthesia ..Arthur Weil (Introduced by Dr. S. W. Ranson)
11. The Ultraviolet Transmission of the Various Layers of Human Skin.....A. Bachem

By Title

12. The Basal Metabolic Rate of Tyro-parathyroidectomized Dogs.....M. M. Kunde

Marriages

HOMER WHEELER HUMISTON, Chicago, to Miss Katharine Frances Zener of Philadelphia, April 29.

Personals

This issue of the JOURNAL carries as a supplement the portrait of Dr. Frederick O. Fredrickson, president of the Illinois State Medical Society, 1929-1930.

Dr. Edward E. Moore, since 1913 health commissioner of Wilmette, has resigned.

Dr. Albert N. Mueller has been appointed city physician of Rock Island for the fifth term.

Dr. Bernard J. Lachner has been elected a member of the board of directors of the Rock Island Savings Bank.

Dr. Howard M. Jamieson, Harding, Mass., has been appointed pathologist to the Decatur and Macon County Hospital, Decatur.

Dr. Charles B. Voigt, Mattoon, was elected president of the District Medical Society of Central Illinois at its fifty-third annual meeting in Pana, April 30.

The Douglas Park branch of the Chicago Medical Society was addressed, May 21, by Dr. Ernest Meinicke, Hagen, Germany, on "A New Test for Syphilis."

Dr. Charles L. Mix, professor of medicine, Loyola University School of Medicine, who is retiring from active practice, has been elected to retired membership in the Chicago Medical Society.

The Vermilion County Medical Society was addressed, May 7, by Dr. Loyal E. Davis, associate professor of surgery at Northwestern University Medical School, Chicago, on "Trigeminal Neuralgia."

Drs. Joseph C. Ross and James H. Taylor, who were recently elected aldermen of Chicago from the northwest and west sides, were guests of honor at an "athletic night" given by the Physicians' Fellowship Club, May 2.

Dr. Charles B. Huggins addressed the Chicago Urological Society, May 24, at the Medical and Dental Arts Club on "Diverticulum of the Spermatic Ducts in the Region of the Prostate Obstructing Urination."

Dr. Logan Clendening, Kansas City, Mo., addressed the Chicago Society of Internal Medicine, May 27, at the City Club on "The Plague Saints"; Dr. Joseph L. Miller, on "The History of Syphilis," and Barry J. Anson, Ph.D., on "Evolution of Anatomic Illustration."

The St. Clair County Medical Society, East St. Louis, was adressed, May 2, by Dr. E. R. Kellersberger of the Belgian Congo, Africa, on "Medicine in Central Africa"; Dr. Kellersberger has spent fourteen years practicing in Africa.

Dr. Julius H. Hess, professor of pediatrics, University of Illinois, was nominated by the National Research Council as a guest delegate to the Conference on Research in Child Development, Toronto, May 2-4, following which he attended a conference in Washington as consultant to the department of labor.

The Benjamin J. Rosenthal Charities, Inc., Chicago, at a luncheon at the Chicago Municipal Tuberculosis Sanitarium, May 1, awarded a medal to Dr. Benjamin Goldberg, secretary of the board of directors of the sanitarium, in recognition of his efforts on behalf of medical education in tuberculosis.

Dr. Ludwig Hektoen, head of the department of pathology at the University of Chicago and director of the John McCormick Institute for Infectious Diseases, was decorated, May 14, with the order of St. Olaf, conferred by the king and legislature of Norway for "distinguished service in medical science," Consul General Olaf Bernts, Norway's representative in Chicago, presented the decoration at a banquet in the La Salle Hotel.

Douglas County Medical Society, recently passed memorial resolutions for Drs. Newton C. McKinney of Camargo, Owen M. Slater of Atwood and Paul A. Slater of Hinsboro.

News Notes

—The Chicago Laryngological and Otological Society held its annual meeting and dinner at the Olympia Fields Country Club, May 14.

—The Chicago Roentgen Society and the Chicago Orthopedic Club met jointly, May 9, at the Virginia Hotel; Dr. James S. Speed, Memphis, Tenn., spoke on "Extra-Articular Fusion of the Sacro-Iliac Joints."

—The Chicago Council of Medical Women will be addressed, June 7, at the Medical and Dental Arts Club by Drs. Bertha M. Shafer on "Spinal Fluid Findings in the Diagnosis of Syphilis," and Eloise Parsons on "Diagnostic Value of Blood Chemistry."

—The Chicago Ophthalmological Society was addressed by Drs. George W. Hall and Roland P. Mackay at the Medical and Dental Arts Club, May 27, on ophthalmoplegic migraine and by Dr. George F. Suker, on idiopathic hypertension and its ophthalmic findings.

—The symphonic band of the Royal Belgian Guards, under the patronage of King Albert and the Belgian ambassador to the United States, gave two benefit performances for the building fund of the Henrotin Hosiptal at the Auditorium Theater, May 19.

—The Chicago Tuberculosis Society was addressed, May 16, at the Medical and Dental Arts Club by Dr. Arthur J. Cramp, director, Bureau

of Investigation, American Medical Association, on "Consumption Cure Quackery" and by Dr. Meyer Solomon on "Psychology of the Tuberculosis Patient."

—The Chicago Gynecological Society was addressed, May 17, at 50 East Erie Street, by Prof. Carl G. Hartman, Ph.D., Johns Hopkins University School of Medicine, Baltimore, on "A Motion Picture of Parturition in the Monkey" and "Menstruation and Associated Phenomena in the Monkey."

At the 32nd Annual Session of The American Gastro-Enterological Association, held at Atlantic City, N. J., May 6-7, 1929, Dr. Frank Smithies, Chicago, donated a fund with the object of the Association's securing annually a guest speaker of national prominence in research work.

The proceeds of the fund assure an honorarium to the invited guest of $100.00. This annual address is to be known as "The Walter C. Alvarez Lecture."

—The Henry County Medical Society was addressed at its annual meeting at Kewanee, May 2, by Drs. David J. Davis, dean, and professor and head of the department of pathology and bacteriology, University of Illinois College of Medicine, Chicago, on "Lung Abscess with Special Reference to Fusospirochetosis," and Jerome R. Head of the same school on "Surgical Aspects of Lung Disease."

—The Chicago Surgical Society was addressed, May 3, at the University Club by Dr. Jacob R. Buchbinder, F. R. Heilman and Dr. George C. Foster on "Effect of Hypertonic Dextrose Solution on Experimental Peritonitis"; Dr. Hilger P. Jenkins, on "Rôle of Duodenum, Pancreatic and Biliary Secretion in Toxicity of Intestinal Obstruction," and Dr. James C. Ellis and Dr. Lester R. Dragstedt on liver autolysis in vivo.

—The state health officer, Dr. Andy Hall, says that the fifteen county tuberculosis sanatoriums in Illinois care for about 1,200 patients a year. They have a total bed capacity of 815, and they operate at an aggregate expense of $620,000 a year. Of the patients admitted only 15 per cent. have incipient tuberculosis; fully one-half have advanced tuberculosis. The tuberculosis death rate last year in Illinois was 73.5 per hundred thousand of population, the lowest rate on record for the state. There were 5,441 deaths due to tuberculosis.

—The state department of health announces that cerebrospinal meningitis is more prevalent in Illinois now than it has been in ten years. More than 225 cases had been reported up to April 26 this year, an increase of 35 per cent. over the corresponding period of last year. An increase of meningitis is being reported at this time in other states, especially in the Midwest and West. During 1928, in Illinois 458 cases were reported; about half of them were fatal.

—The new Passavant Hospital on the campus of Northwestern University Medical School, East Chicago Avenue near the lake, was opened to the public, May 21. Patients will be received, June 3. Dr. Irving S. Cutter, dean of the medical school, will be superintendent, and the staff will be members of the faculty of the school. The $2,000,000 institution will open with 200 beds, the east wing being used to house 100 nurses until a nurses' home is built. Dr. A. W. Passavant founded the Passavant Hospital in 1865. It was destroyed by fire in 1871, rebuilt in 1885, and four years ago was closed because the building was inadequate.

—Loyola University School of Medicine announces the establishment of the Samuel A. Matthews Lectureship by the Phi Beta Pi fraternity. The first Matthews lecture, given by Dr. Arthur L. Tatum, professor of pharmacology, University of Wisconsin Medical School, Madison, on "A Physiologic Interpretation of Morphine Addiction," in the Mercy Hospital Amphitheater, May 20. The late Dr. Matthews was professor and head of the department of physiology, pharmacology and therapeutics at Loyola, and previously was on the faculty of the University of Chicago and of Rush Medical College.

—During the "sumer round-up" of the parent-teacher associations, the state department of health will cooperate to bring about the physical examination of every child who will make his initial entry in school next fall. The public health nurses of the department have been instructed to render every possible cooperation with the parent-teacher associations in this work The department of health will furnish moving pictures. The Illinois Congress of Parents and Teachers will furnish examination forms to its component units. There are said to be about 250,000 children who will enter school for the first time this fall.

—The late Milton L. Hartman bequeathed

$100,000 to establish and endow a curative workshop at Michael Reese Hospital, which will be in operation within two months in the Babette and Emanuel Mandel Clinic. Dr. John S. Coulter, assistant professor of physical therapeutics, Northwestern University Medical School, and Dr. Daniel H. Levinthal, instructor in orthopedic surgery, will be in charge. This is said to be the first endowed curative workshop in the country. Occupational therapy, since the World War, has been extensively employed in caring for the sick, not only to occupy the mind but to restore impaired functions.

—The Chicago Medical Society is sponsoring another series of summer clinics which will be held at Cook County Hospital, June 17-29, and will be devoted primarily to general medicine and surgery, although practically all phases of medical practice will be discussed. There will be eight hours of clinics and ward walks each day and six evening addresses by physicians other than those on the hospital staff. When a sufficient number have registered to fill the hospital others cannot be accepted. There will be a registration fee of $10 for the period. Communications should be addressed to the Chicago Medical Society, 185 North Wabash Avenue.

—The Scientific Session of the American Heart Association will be held in Portland, Oregon, July 9, 1929, during the meeting of the American Medical Association.

—For 1928 the peak for patients under supervision of the Municipal Tuberculosis Sanitarium, 45,905 was reached, with 255,969 patient visits to the eight dispensaries and 359,287 nurses' home visits. The dispensary dental division rendered service to 83,776 patients, all but 808 of whom were children. These patients could not afford the services of a private dentist. The dispensary roentgen-ray division increased its work more than 100 per cent. in 1928, when 7,470 roentgenograms were made. Sixty-one open window rooms in the public schools are now under supervision. The death rate per hundred thousand has reached the lowest point ever reached for the white population; namely, 60.6. Because of the marked migration of negroes in the last six years, resulting from industrial necessity, the negro death rate has increased to 447 per hundred thousand, representing 778 deaths for a population estimated at 173,889. The Mexican population, also of recent migration, has contributed eighty-one deaths in 1928. To combat this serious situation, a special lecture and practical course in tuberculosis was given to a group of more than fifty negro physicians. This was followed by an intensive house to house survey, to find individuals with tuberculosis who have never been under supervision. Ten thousand dodgers were printed and distributed by negro boy scouts during negro health week, asking that all persons have a complete physical examination by their private physicians during the month of April. Other activities in the field are special studies on 500 children who have been "contacts" to tuberculosis cases; a special study and survey of all patients with tuberculous meningitis dying in Chicago during 1928; a study of all known contacts to all known active tuberculosis cases in the entire city; a survey of the Mexican situation involving a detailed examination of 1,200 Mexicans; and a survey and detailed examination of 1,000 high school girls to determine the incidence of various defects. At the Municipal Tuberculosis Sanitarium, approximately 300 senior medical students of the class A medical schools have received a resident clerkship, in addition to special clinics and lectures. Two resident fellows are about to complete their first year, one in medicine and one in chest surgery.

—Michael Rees Hospital announces the establishment of the Emil and Fannie Wedeles Fund for the Study of the Heart and Circulation, by Mrs. Fannie Wedeles of Chicago in memory of her husband, who died of heart disease. The studies will be clinical, laboratory and social in the hospital wards and in the out-patient cardiac clinics of the Mandel Clinic. Emphasis will be placed on the social aspects of heart disease. The work will start with an investigation of "angina"; rheumatic heart disease in children, the goiter heart and other forms will be taken up as opportunities arise. Members of the cardiovascular group of the staff of Michael Reese Hospital will direct the work. Mrs. Wedeles and her nephew, Dr. Samuel Goodman of Tulsa, Okla., will be ex officio members. The income from the fund will vary, but for the next five years it will be $7,000 a year.

—The District Medical society of Central Illi-

nois held its 53d annual meeting in Pana, Tuesday, April 30, presided over by the president, Dr. Samuel B. Herdman of Taylorville.

The program began at 9:30 o'clock in the morning with practical clinics at the Huber Memorial hospital. General surgical clinics were in charge of Drs. W. G. Wallace, T. O. Freeman and B. H. Hardinger, all of Mattoon.

The eye, ear, nose and throat clinics were in charge of Drs. C. B. Voight and Paul Hardinger, also of Mattoon.

The medical clinic was under direction of Dr. Hugh McCullough, assistant professor of Internal Medicine of Washington University medical department and physician to Children's hospital, St. Louis.

Luncheon was served at the noon hour at the Frances hotel.

Following the noon hour the following papers were taken up and discussed:

"Some unusuals in Pediatrics"—Dr. B. Raymond Cole of Mattoon; "Obsterical Experience and Use of Twilight Sleep"—Dr. E. E. Richardson of Mattoon; "Cardise Diseases in Children" —Dr. Hugh McCullough of St. Louis.

The election of officers resulted as follows: president, Dr. C. B. Voight, Mattoon; vice-president, Dr. C. H. Hullick, Shelbyville; secretary-treasurer, Dr. F. A. Martin, Pana; censors, Drs. J. F. Miller, Palmer; Charles Lockart, Witt, and J. W. Patterson, Oconee.

—The Julius Rosenwald Fund will contribute $50,000 a year for five years to support the University of Chicago clinics on condition that $100,000 a year be raised from other sources; Max Epstein and Albert D. Lasker each pledged $25,000 a year for five years. John Hertz has given the university $75,000 for a study of disorders of the pituitary gland and related conditions. The Quaker Oats Company has granted $4,500 for an investigation of the nutritive value of unirradiated and irradiated farina and the effect of ultraviolet rays on the various types of proteins; it has granted $3,600 for a study of certain properties of cereals treated with ultraviolet rays. The following contributions have been made to the library fund of the Billings Hospital: Dr. Frank Billings and Mr. C. K. G. Billings, Mr. Charles Ruddock and the Knapp Fund each $1,000, and Dr. Lester E. Frankenthal, $257.24. Harriet F. Holmes has been appointed research associate in the department of pathology for one year from January. Milton T. Hanke has been promoted to associate professor of biochemistry in the department of pathology for one year from January, and Dr. William Bloom has been promoted to assistant professor in the department of anatomy, effective March 15, 1929.

Deaths

DONALD EDWARDS BELL, Evanston, Ill.; Indiana University School of Medicine, Indianapolis, 1922; aged 33; died, April 20, of Banti's disease.

JAMES EDDINGTON CONNETT, Lawrenceville, Ill.; Indiana Ecletic Medical College, Indianapolis, 1883; aged 67; died, April 29, of heart disease.

EDWIN V. CORY, Chicago; Northwestern University Medical School, Chicago, 1896; member of the Illinois State Medical Society; aged 55; died, April 17, of chronic myocarditis and nephritis.

ALBERT GARVER, Lima, Ill.; Keokuk (Iowa) Medical College, 1893; member of the Illinois Sate Medical Society; aged 60; died, April 7, of uremia.

FREDERICK ROBIN GREEN, Chicago; Northwestern University Medical School, 1898; a Fellow, A. M. A.; assistant editor of the ILLNOIS MEDICAL JOURNAL, 1905-6; assistant secretary, A. M. A. 1906-10; secretary and executive officers of Council of Health and Public Instruction, A. M. A., 1910-1922; first lieutenant, M. O. R. C., 1908-1917; captain, 1917; major, M. C., 1918; lieutenant colonel, M. O. R. C., 1925; secretary of Medical and Dental Arts Club, 1924-26; aged 59; died, April 26, of cardiovascular disease.

HARVEY BRUCE HARRIS, Chicago; University of Nebraska College of Medicine, Omaha, 1927; aged 35; died, Nov. 6, 1928, of poisoning by sodium cyanide taken accidentally.

FRANK WEBSTER JAY, Evanston, Ill.; Rush Medical College, Chicago, 1890; formerly associate professor of surgery at his alma mater; veteran of the Spanish-American War; aged 61; died suddenly, May 12, of angina pectoris.

THOMAS BENTON PLOWMAN, Georgetown, Ill.; Indiana Medical College, Indianapolis, 1878; aged 78; died, April 20, at the Lake View Hospital, Danville, of uremia and hypertrophy of the prostate.

LEONARD CARDINAL QUINN, Chicago; University of Illinois College of Medicine, Chicago, 1909; aged 45; formerly on the staff of St. Mary of Nazareth and St. Elizabeth's hospitals; on the staffs of the Columbus Hospital, American Hospital and the Edgewater Hospital, where he died, in April, of pneumonia.

JOSHUA C. STONECIPHER, Rend, Ill.; Denver and Gross College of Medicine, 1909; aged 71; died, April 9, of heart disease.

FRANCIS WILSON WYLIE, Emma, Ill.; St. Louis College of Physicians and Surgeons, 1898; aged 61; died, March 18.

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